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CRPL-F 256 PART A

FOR OFFICIAL DISTRIBUTION

PART A
IONOSPHERIC DATA

ISSUED
DECEMBER 1965

NOTICE

See announcement on page ii

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY
(FORMERLY CENTRAL RADIO PROPAGATION LABORATORY)
BOULDER, COLORADO

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY
(FORMERLY CENTRAL RADIO PROPAGATION LABORATORY)
BOULDER, COLORADO

IONOSPHERIC DATA

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NOTICE

Effective October 11, 1965, the Central Radio Propagation Laboratory was transferred from the National Bureau of Standards to the new Environmental Science Services Administration (ESSA). At the same time the name CRPL was changed to INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY (ITSA) to reflect the expanded scope of its responsibilities. The monthly bulletins "Ionospheric Data" (CRPL-F series, Part A) and "Solar-Geophysical Data" (CRPL-F series, Part B) will be continued under the new ITSA program. Communications concerning the "Ionospheric Data" series should be addressed to:

Prediction Services Section
Ionospheric Telecommunications Laboratory
Institute for Telecommunication Sciences and Aeronomy
Environmental Science Services Administration
Boulder, Colorado 80301

IONOSPHERIC DATA

The CRPL-F series bulletins are issued as part of the responsibility of the Institute for Telecommunication Sciences and Aeronomy (formerly Central Radio Propagation Laboratory) of ESSA for the distribution of ionospheric and related geophysical data. They represent a variety of data collected by ITSA (CRPL) in the course of its research and service activities. Through the CRPL-F series, as part of the general exchange of scientific information, these data are made available for use by others in research on radio propagation and the ionosphere, and in other geophysical applications.

In "Ionospheric Data" (CRPL-F series, Part A) tables of monthly median values of vertical incidence ionospheric data are presented accompanied by graphs of critical frequencies and $M(3000)F_2$. The tables include the number of values entering into the median determination (count). When available, the upper and lower quartile values (indicated by UQ and LQ) are listed for foF_2 , foF_1 , foE_s , $M(3000)F_2$, $h'F_2$ and $h'F$. Space limitations do not permit inclusion of quartile values for the other characteristics. The tables are prepared by machine methods and the graphs are plotted automatically.

The tables and graphs present the ionospheric data as received from the originating laboratory. Responsibility for the accuracy and reliability of the data rests entirely with the originator. Medians of data for the U.S. stations are computed in accordance with the recommendations of the World-Wide Soundings Committee.

Data will appear in the "Ionospheric Data" only when the complete daily hourly tabulations have been received. In general, priority of publication is given to the most current data. Publication of data

received too long after the month of observation may experience an indefinitely prolonged delay.

Information on symbols, terminology and conventions may be found in the "URSI Handbook of Ionogram Interpretation and Reduction of the World-Wide Soundings Committee," edited by W. R. Piggott and K. Rawer (Elsevier, 1961), which supersedes previous documents. A list of symbols is available from ITSA (CRPL).

Units and Abbreviations of Ionospheric Data Tables

foF2, foEs - - -	Tenths of a megacycle	MED -	Median
foF1, foE - - -	Hundredths of a megacycle	CNT -	Count
h'F2, h'F, h'E -	Kilometers	UQ -	Upper Quartile
M(3000)F2 - - -	Hundredths	LQ -	Lower Quartile

Key to Points of Ionospheric Data Graphs

foF2: x	foE : ⊙	M(3000)F2 : ◇
foF1: Δ	foEs: +	
< Less-than value indicated.		
> Greater-than value indicated.		
- - - <u>Interpolated value indicated.</u>		

The following table contains the latest available information on twelve-month smoothed average of observed Zurich relative sunspot numbers, beginning with the minimum of April 1954. Final numbers are listed through June 1964, the succeeding values being based on provisional data.

Smoothed Observed Zurich Relative Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	10	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	109	102	98	93	88	84
1961	80	75	69	64	60	56	53	52	52	51	50	49
1962	45	42	40	39	39	38	37	35	33	31	30	30
1963	29	30	30	29	29	28	28	27	27	26	24	21
1964	20	18	15	13	11	10	10	10	10	10	10	11
1965	12	12	13	14	15							

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

THE IONOSPHERIC DATA PRESENTED IN THE 100 TABLES AND GRAPHS OF THIS ISSUE WERE ASSEMBLED BY THE INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY FOR ANALYSIS, CORRELATION, AND DISTRIBUTION. THE FOLLOWING ARE THE SOURCES OF DATA.

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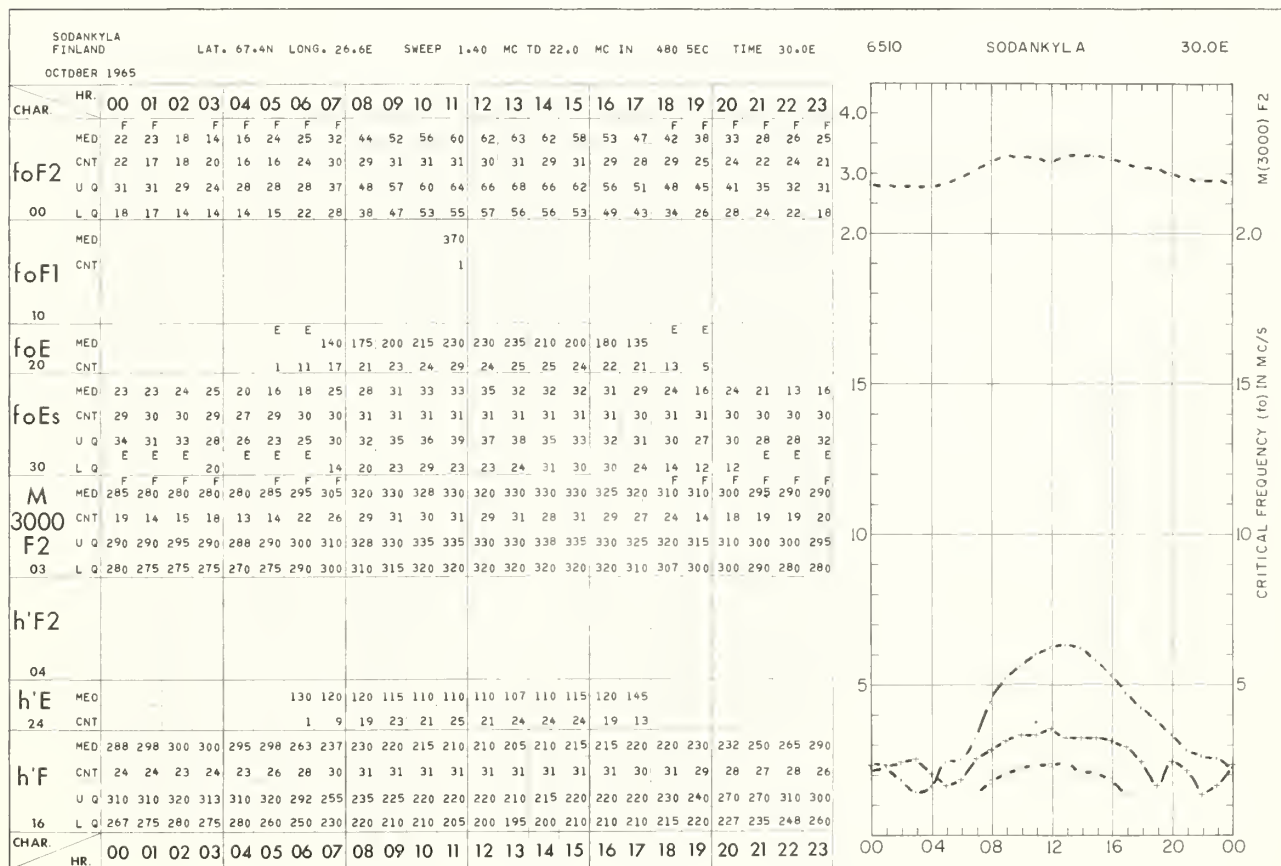
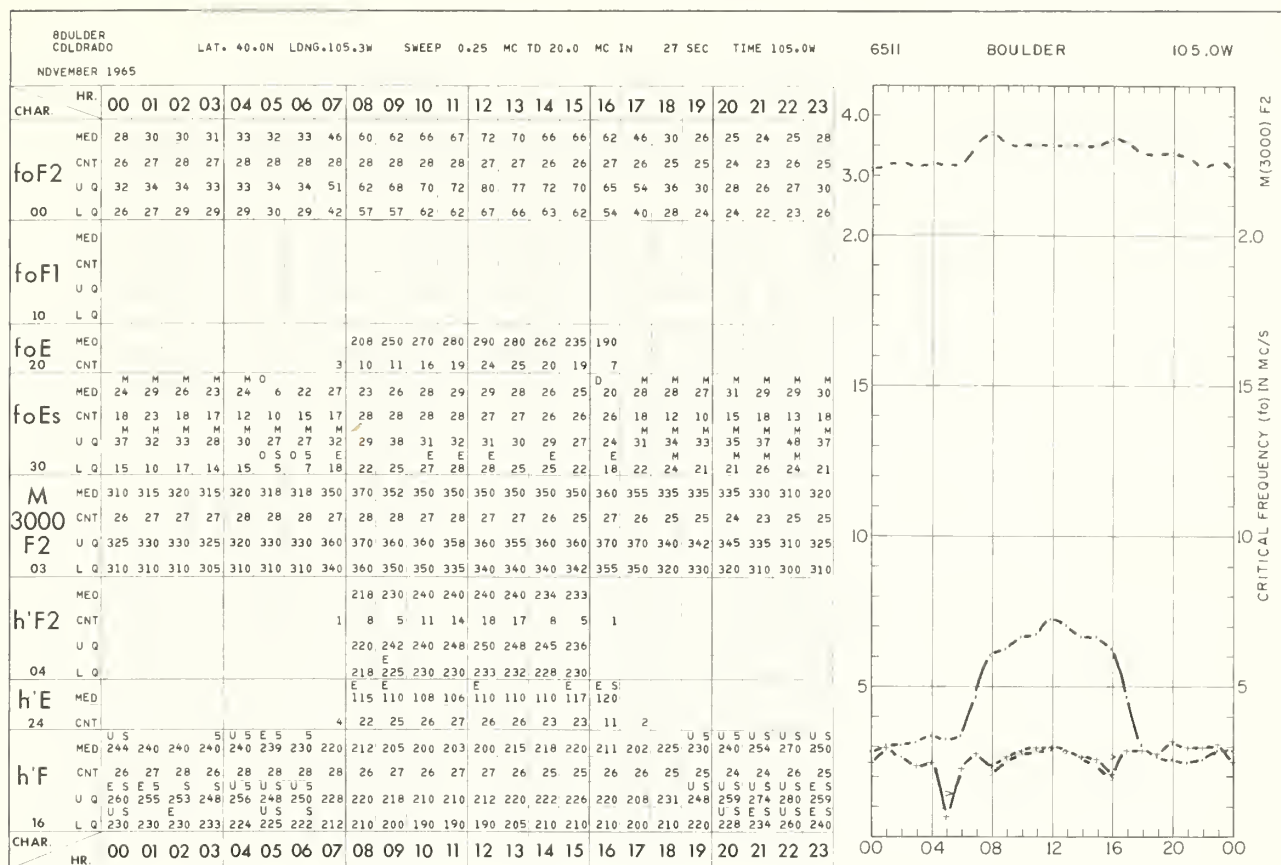
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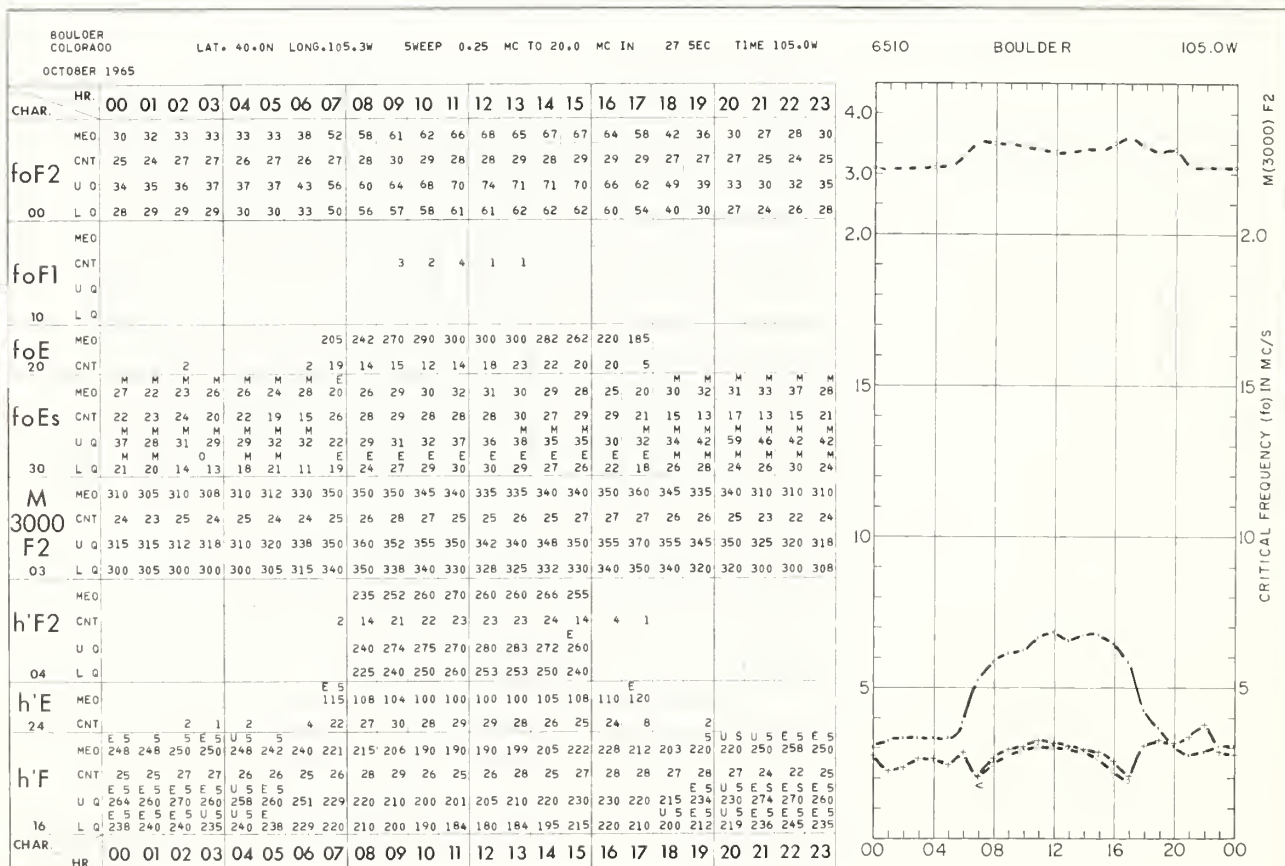
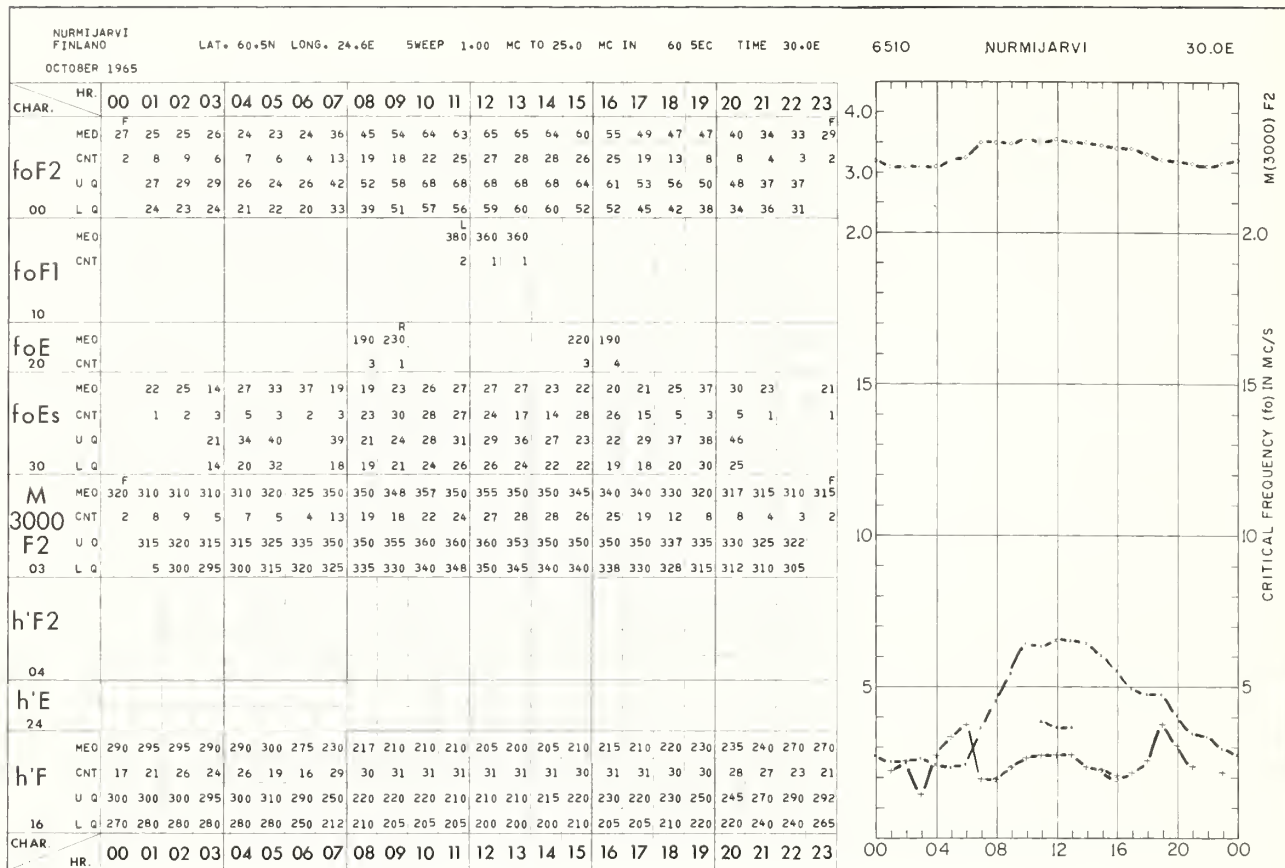
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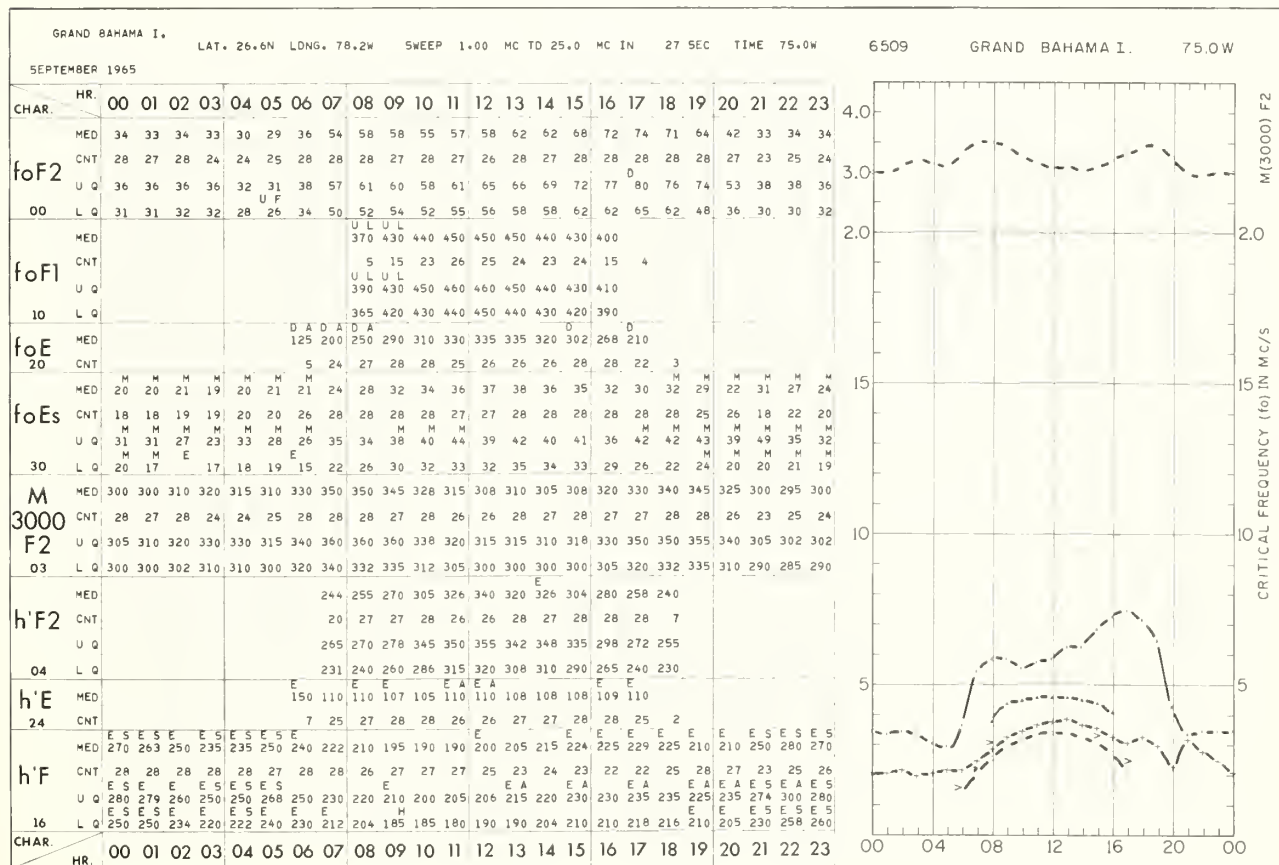
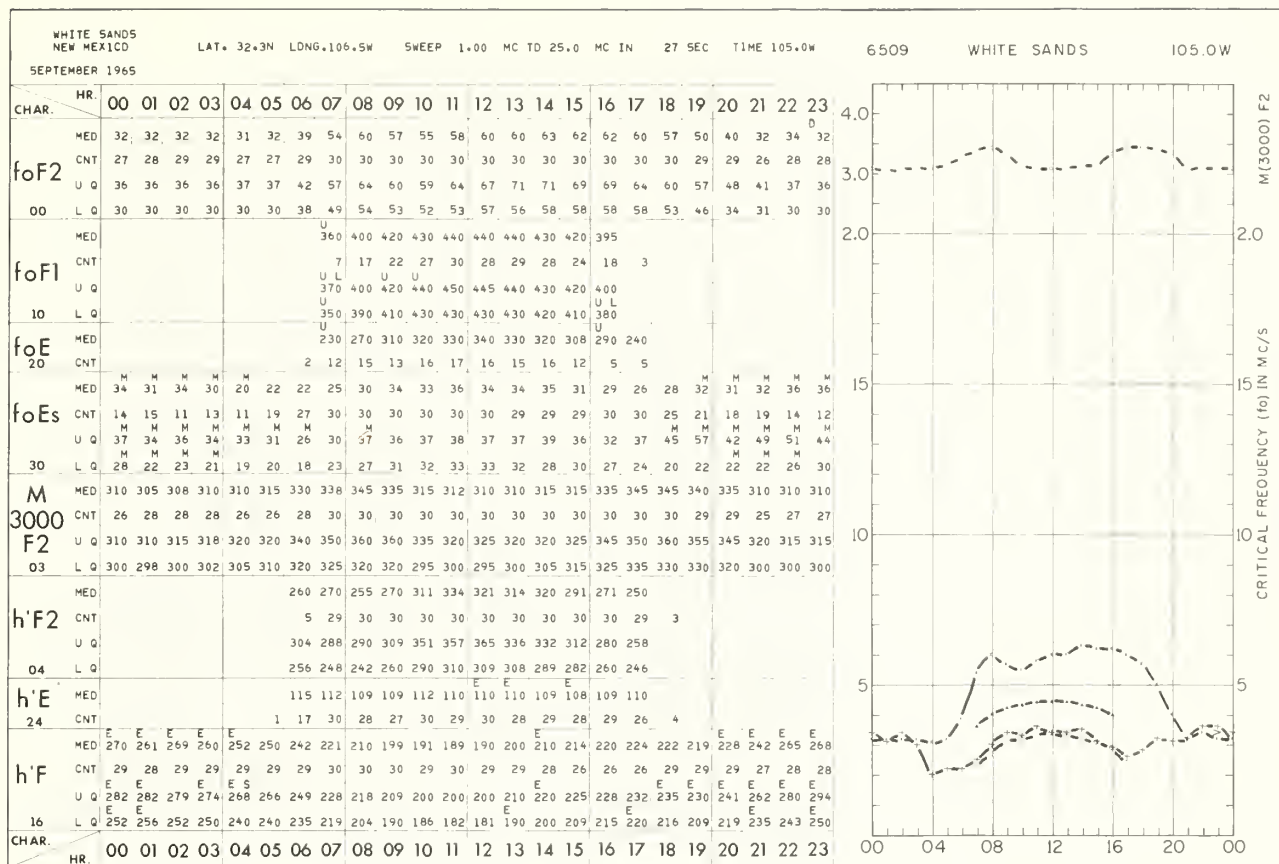
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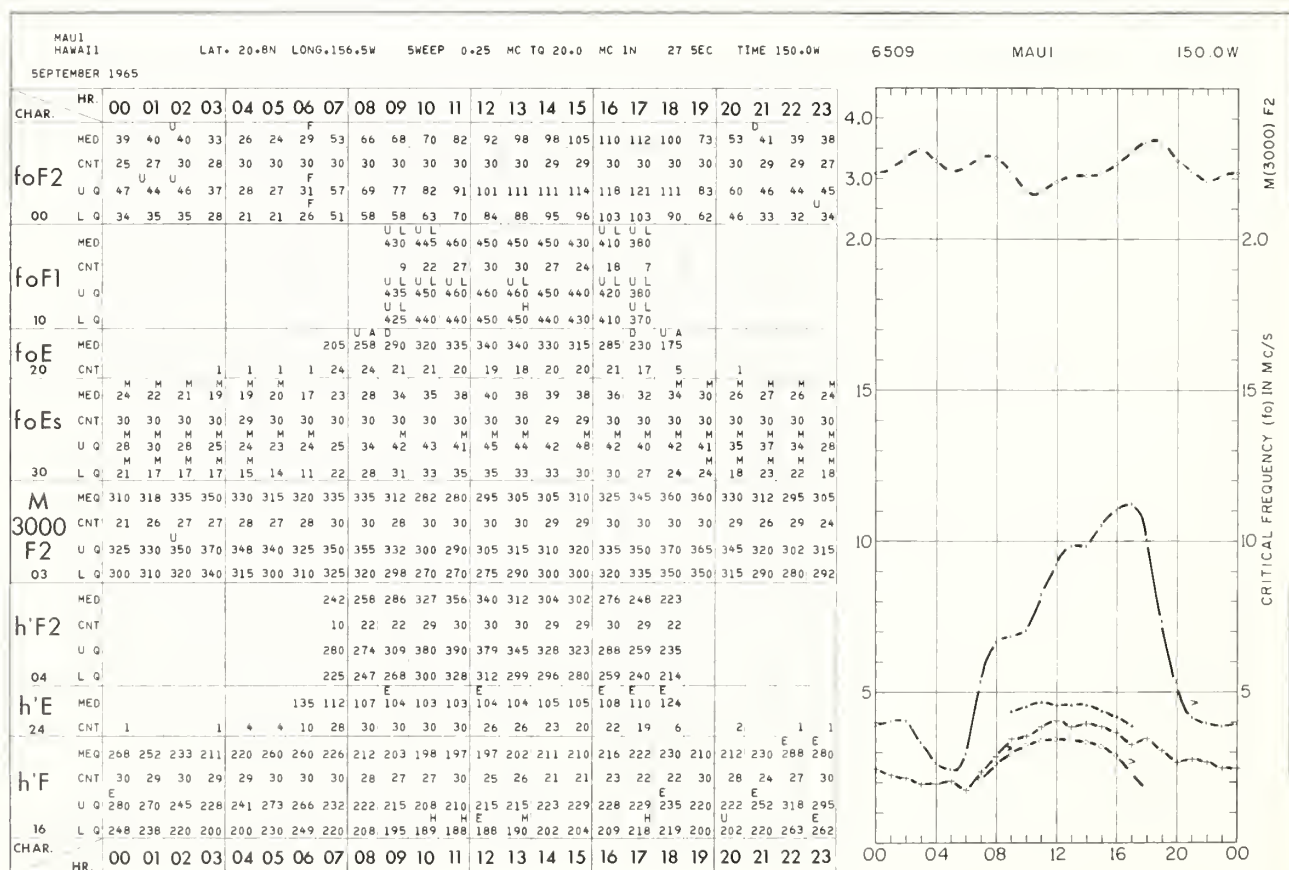
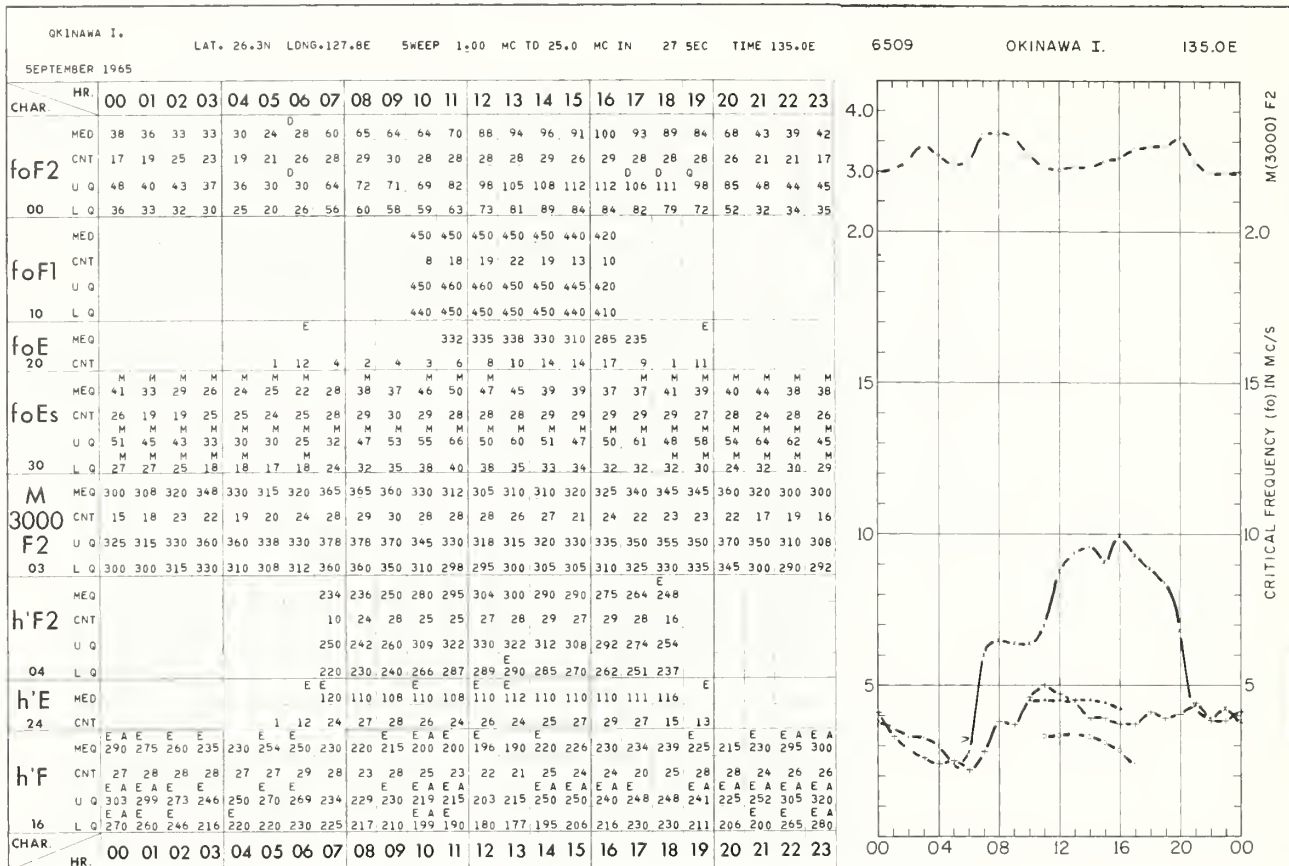
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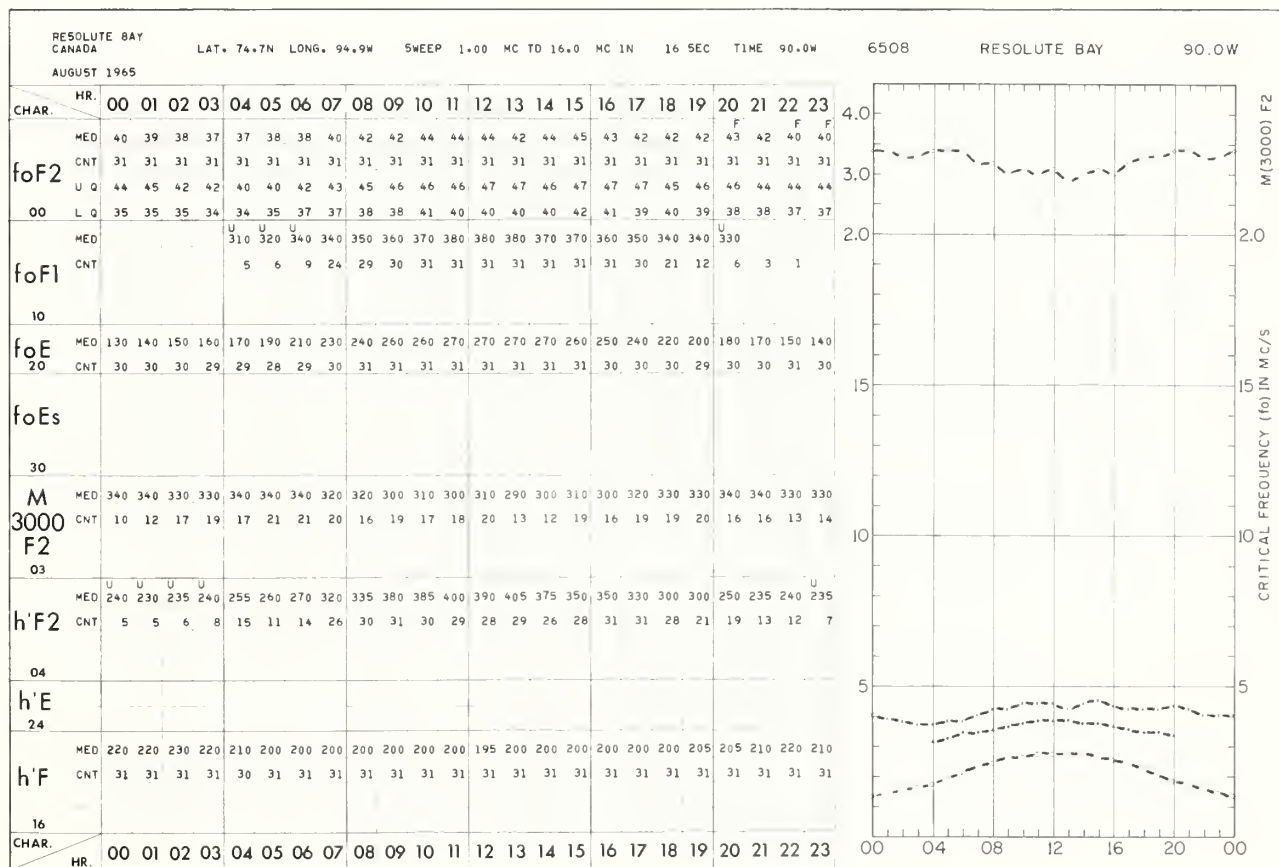
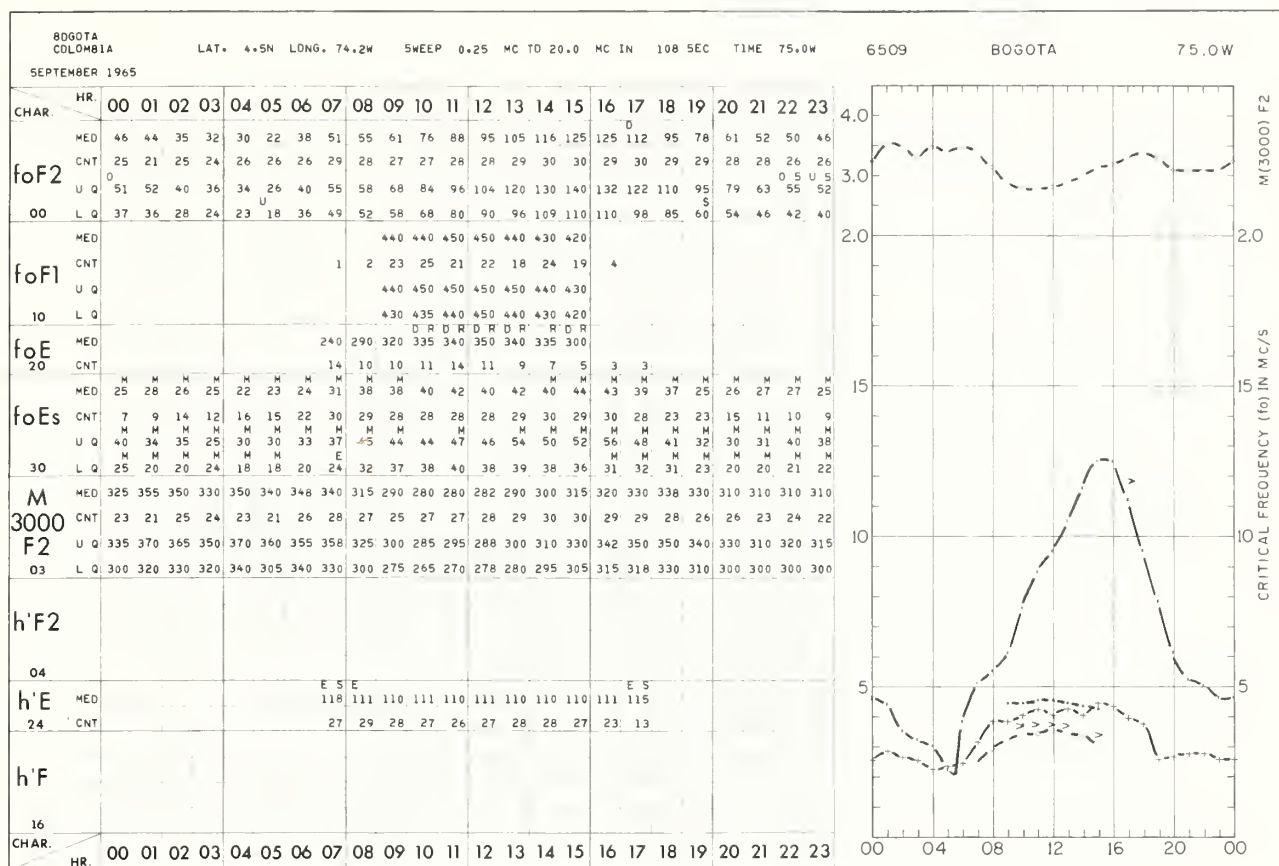
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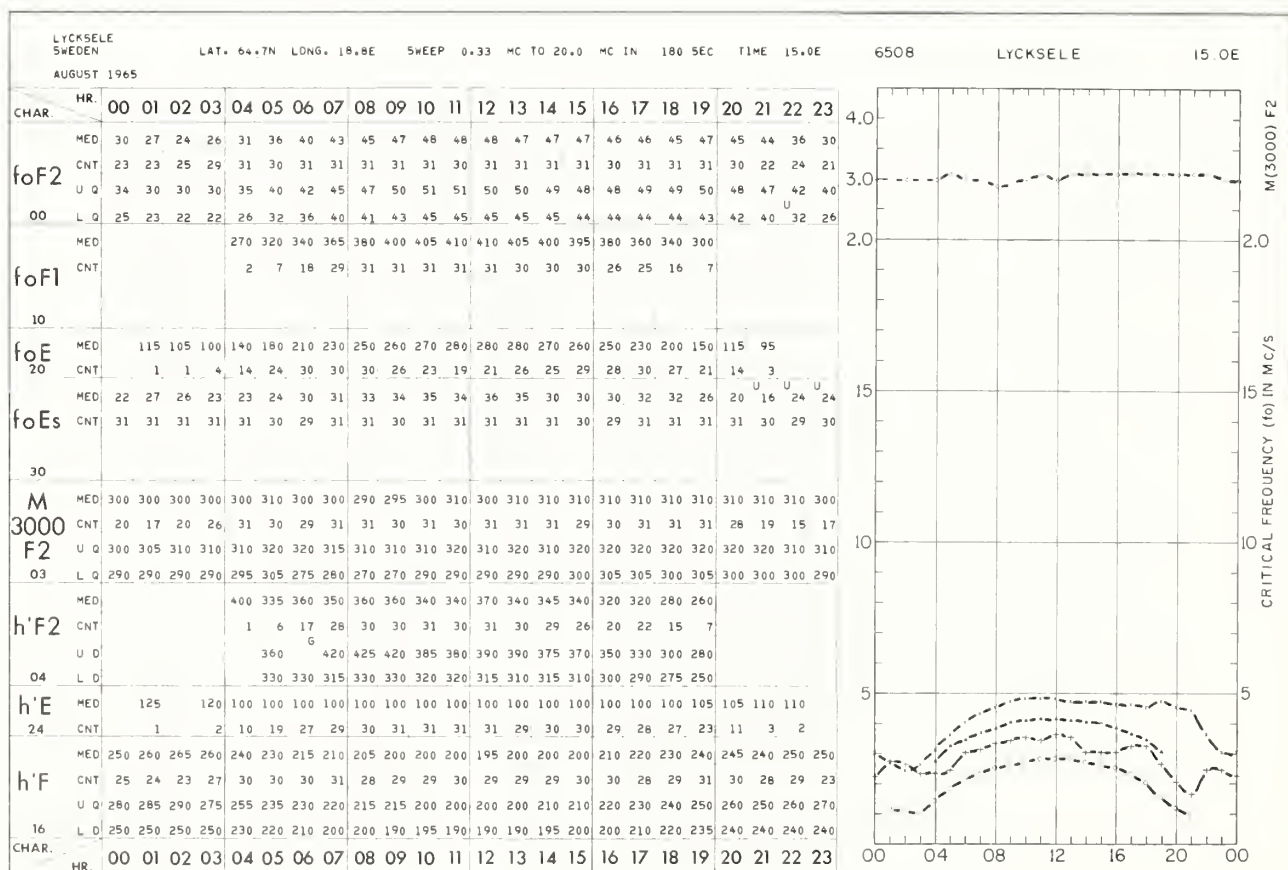
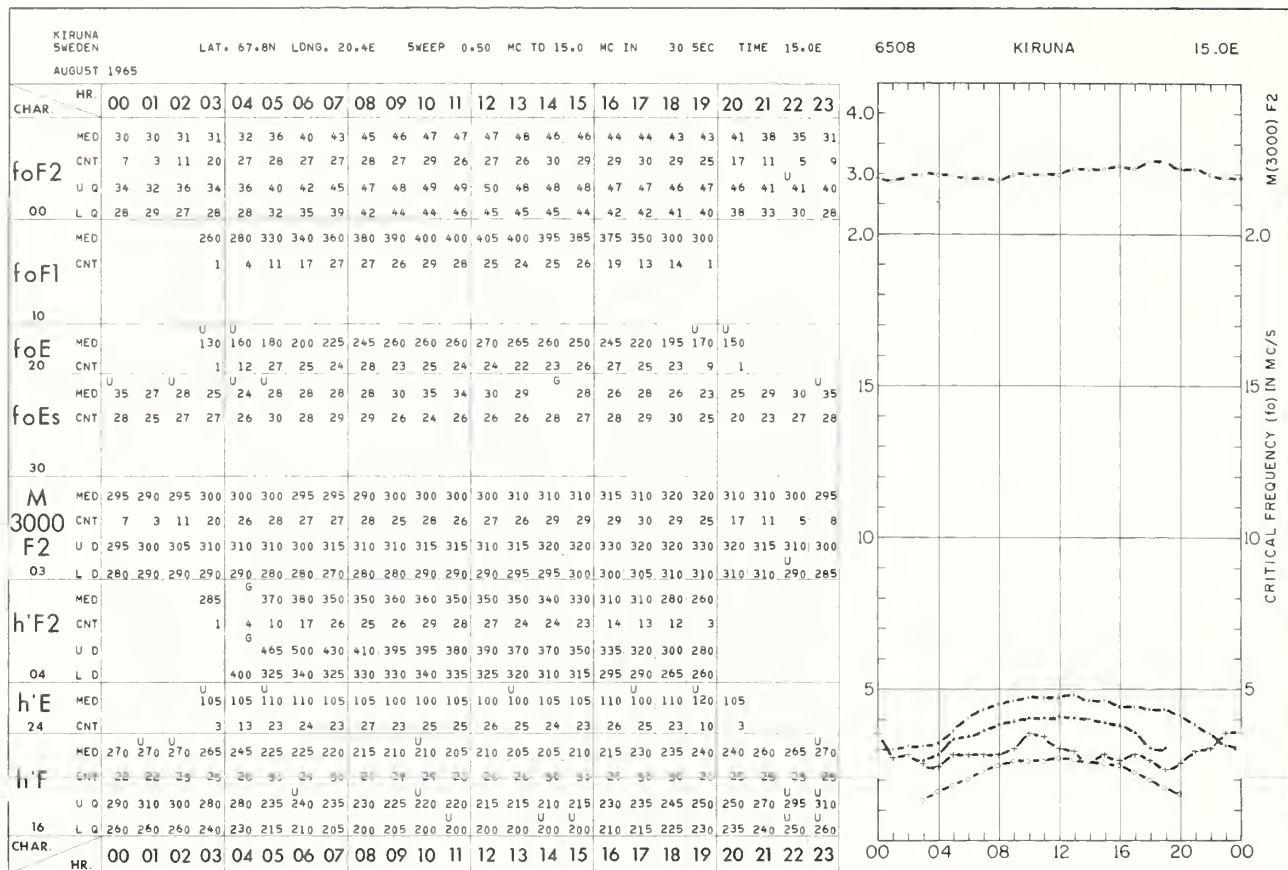


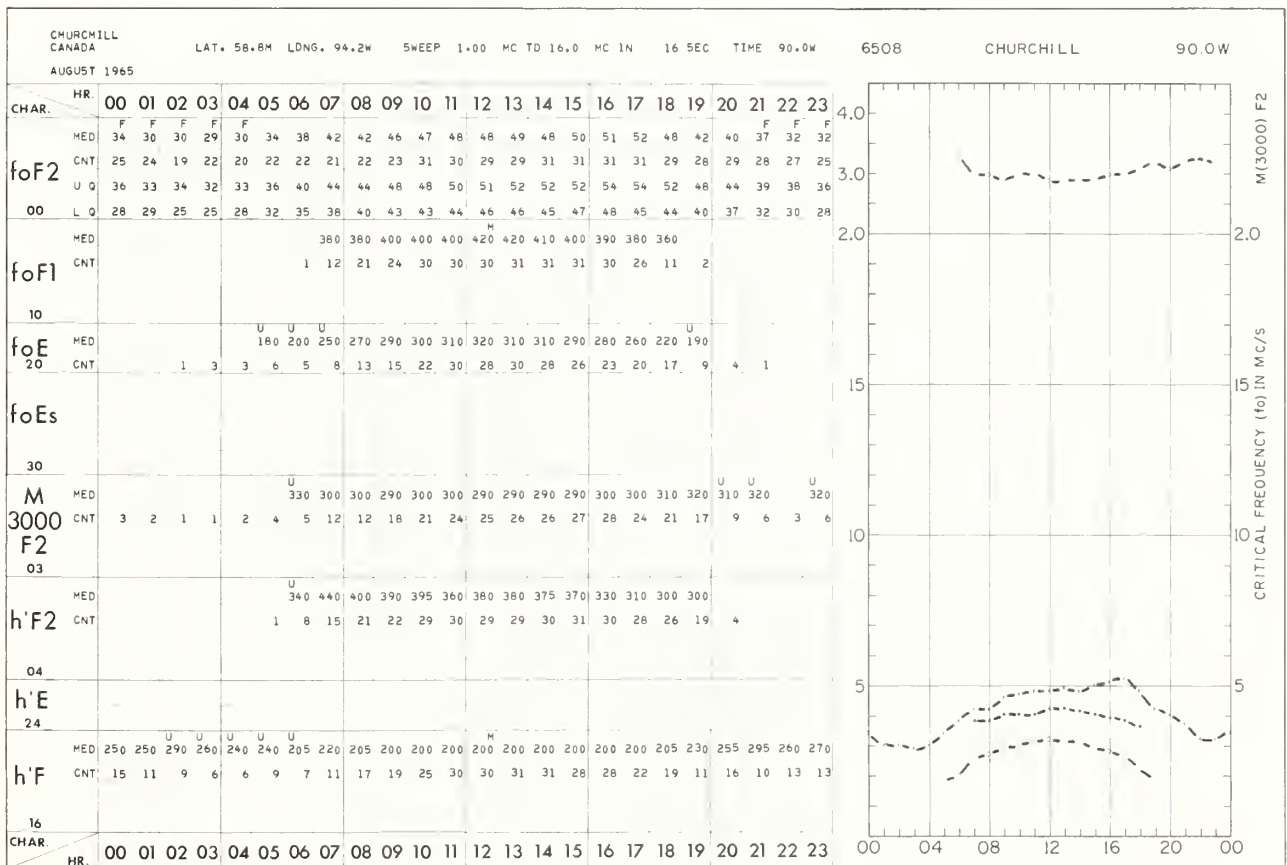
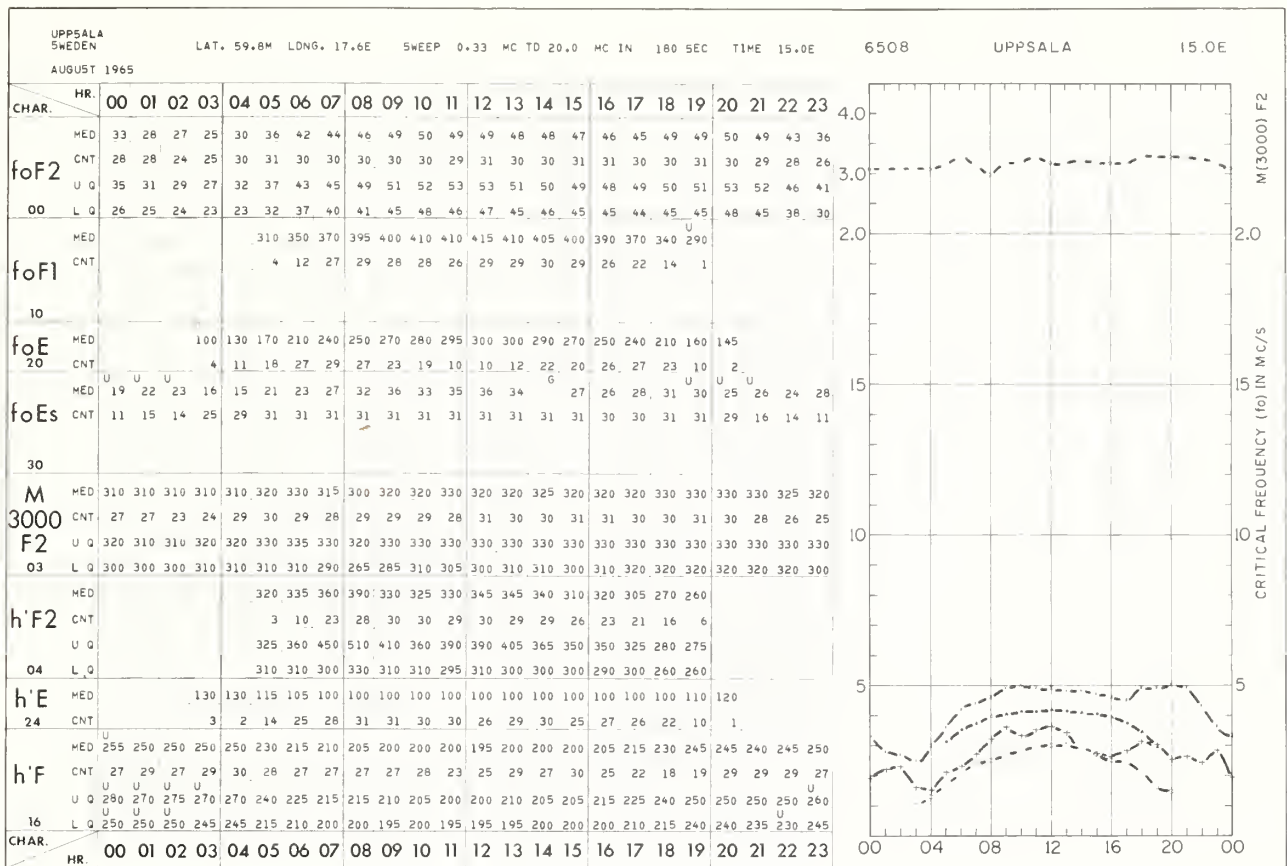


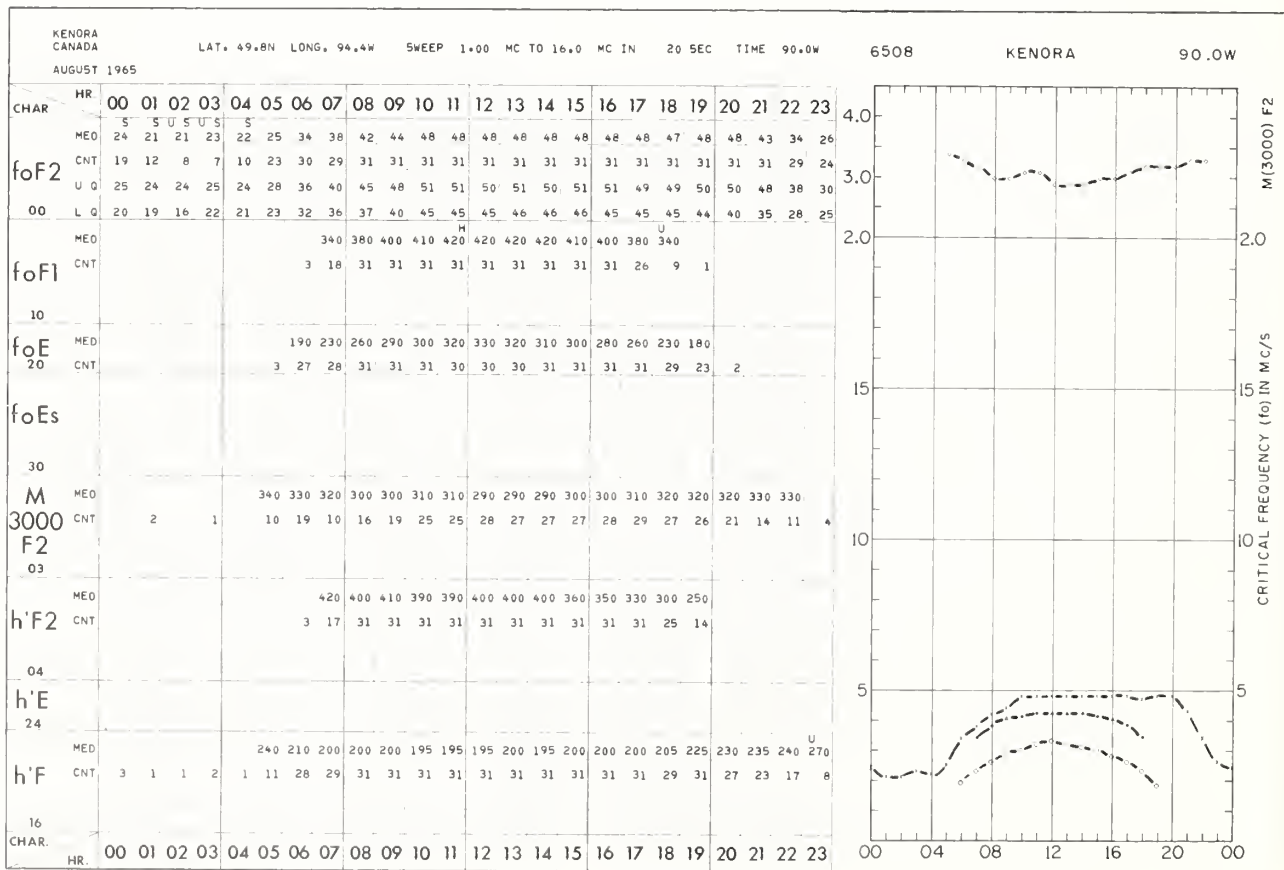
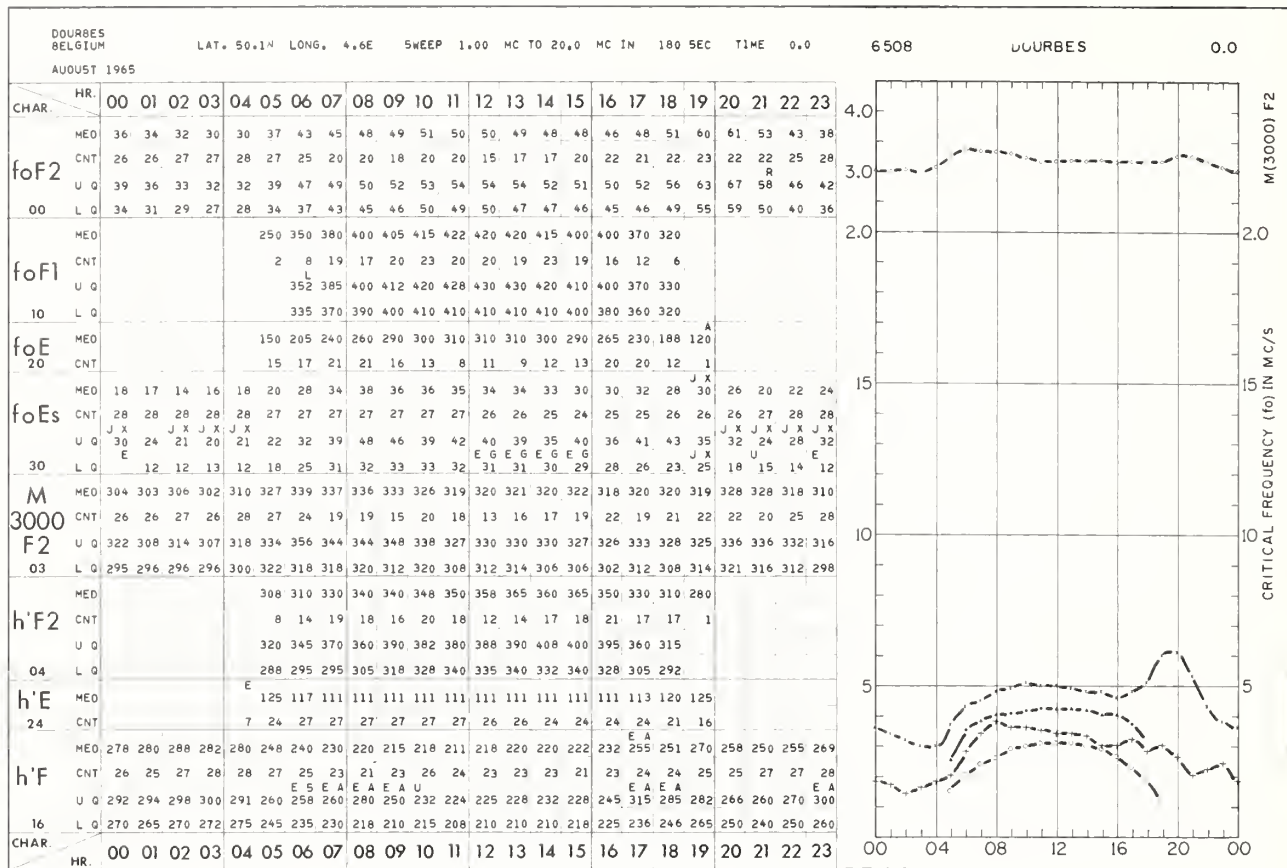


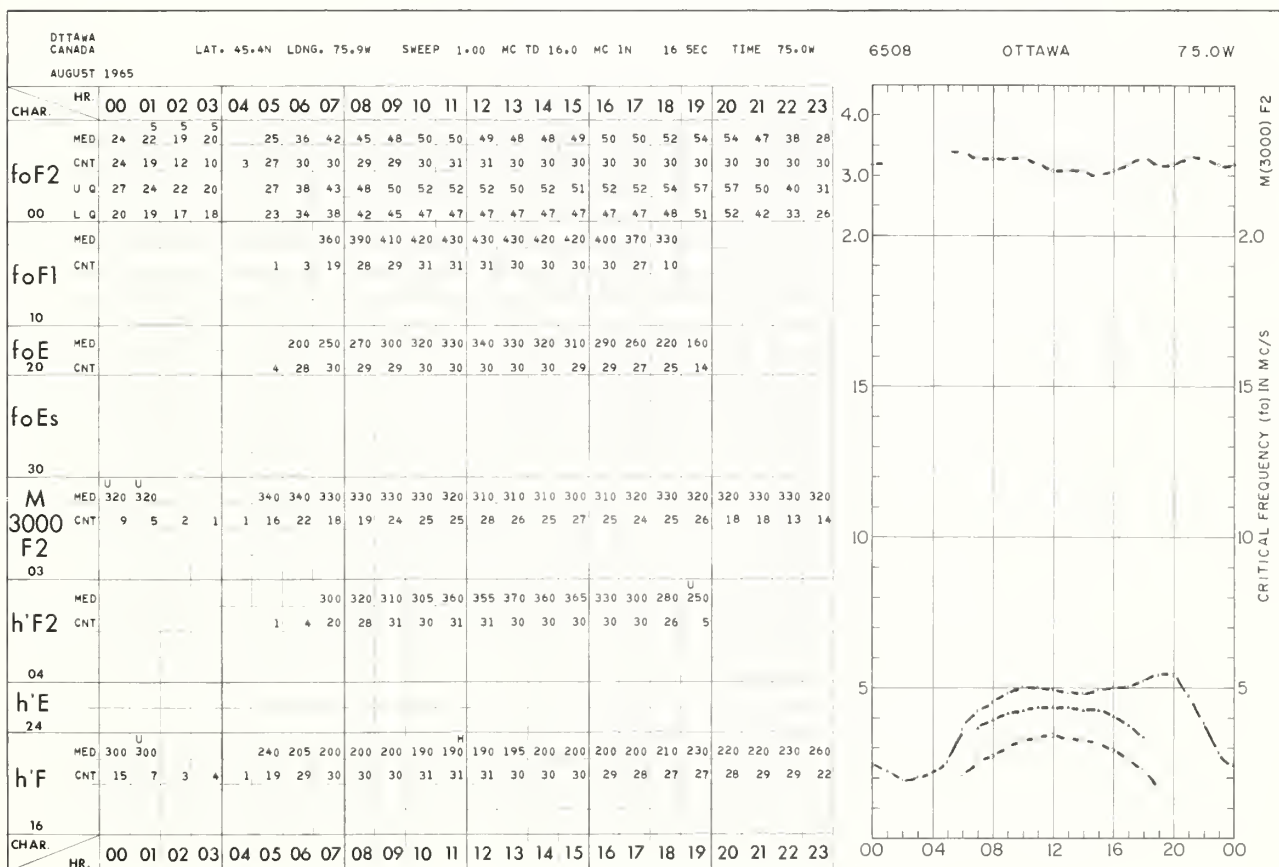
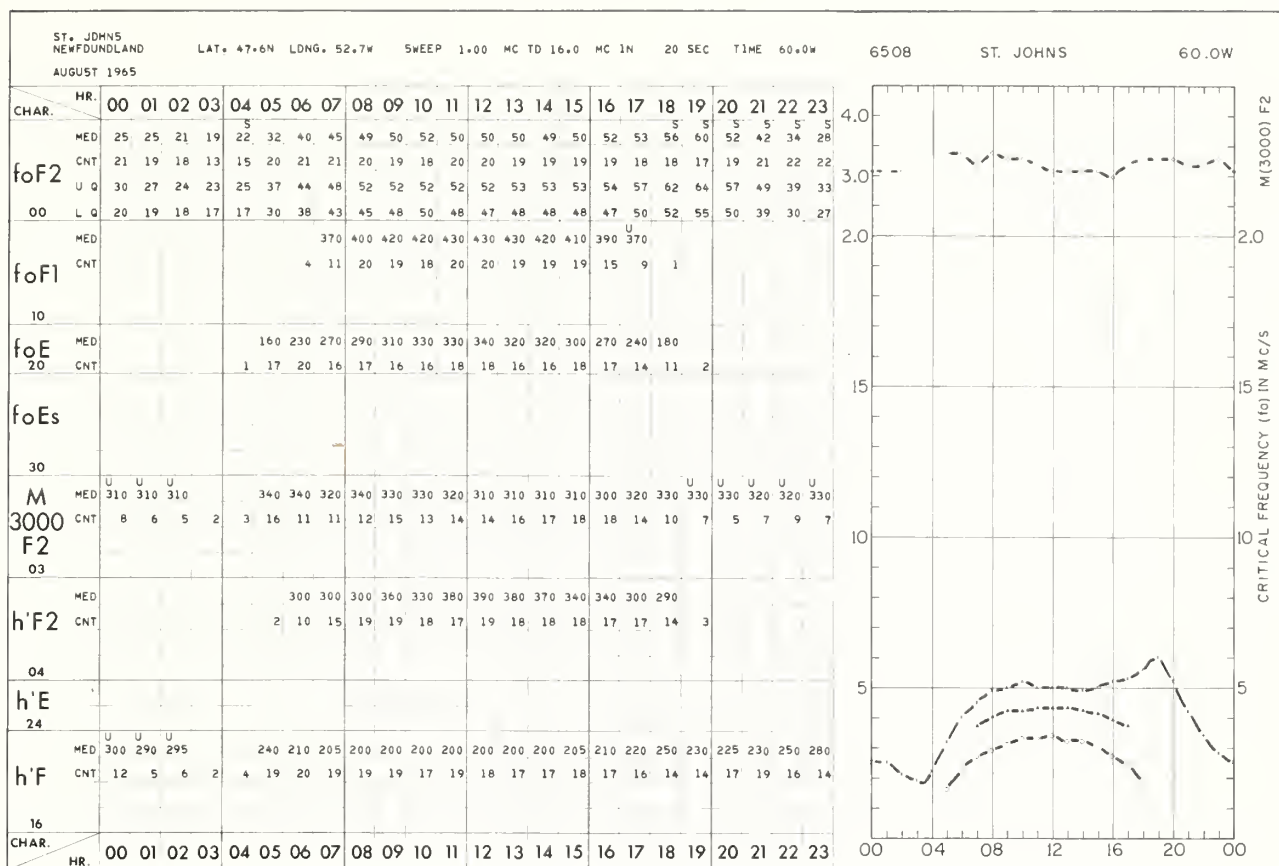


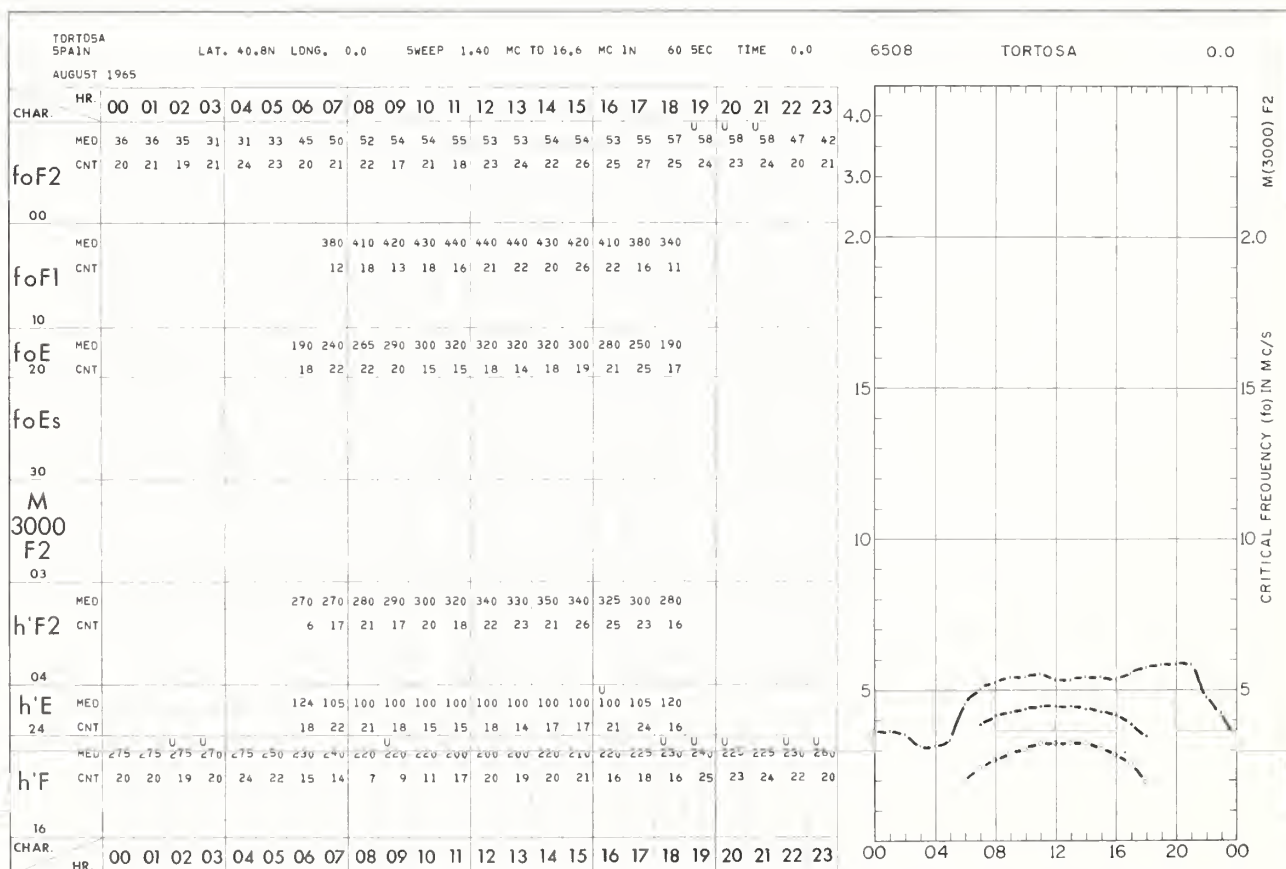
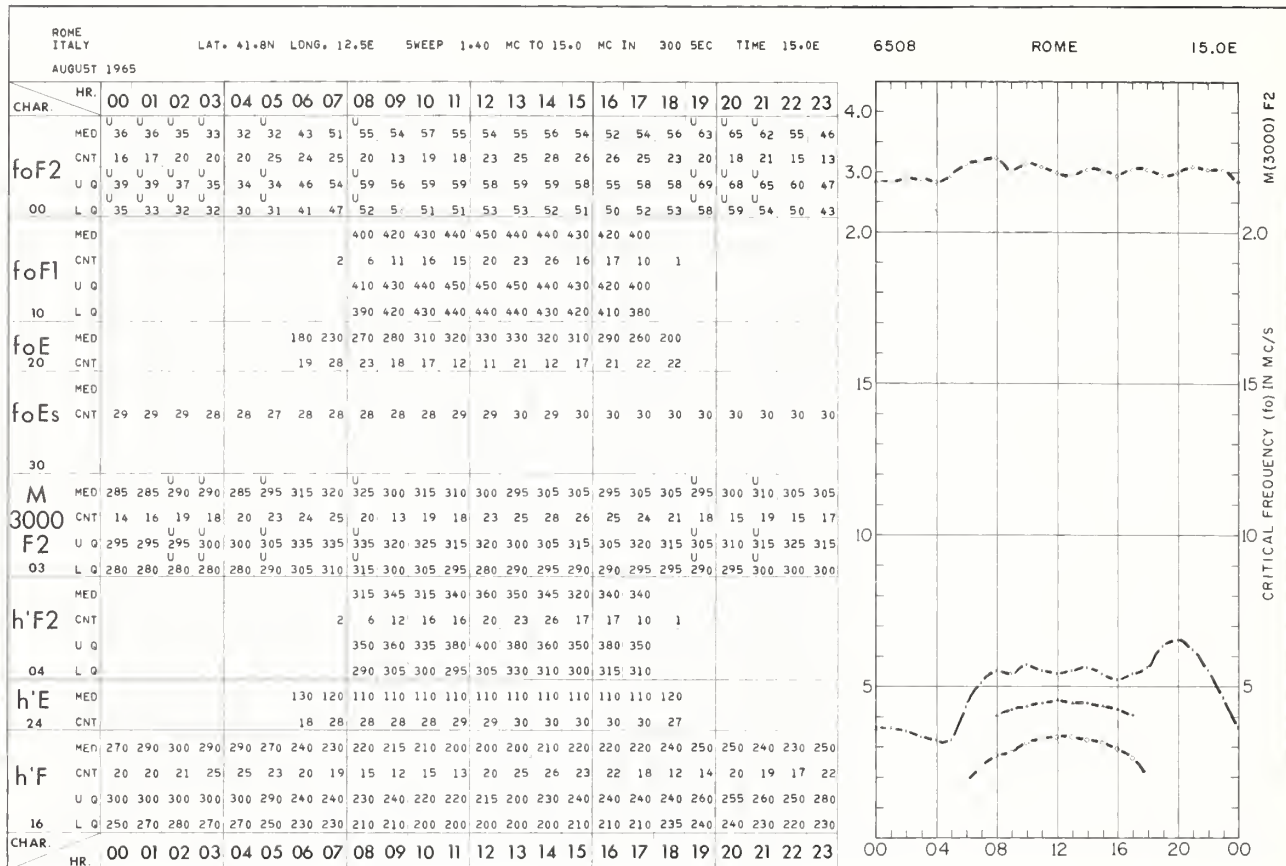


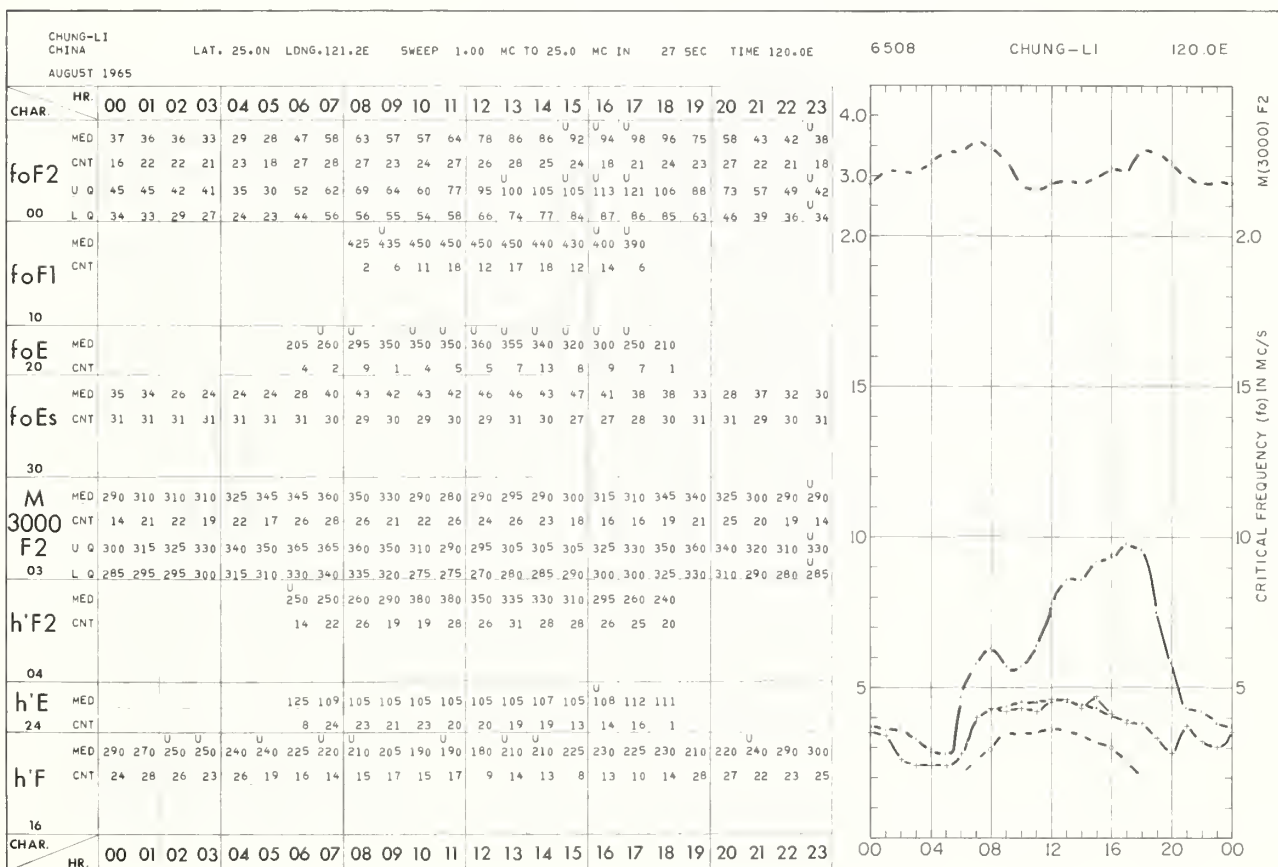
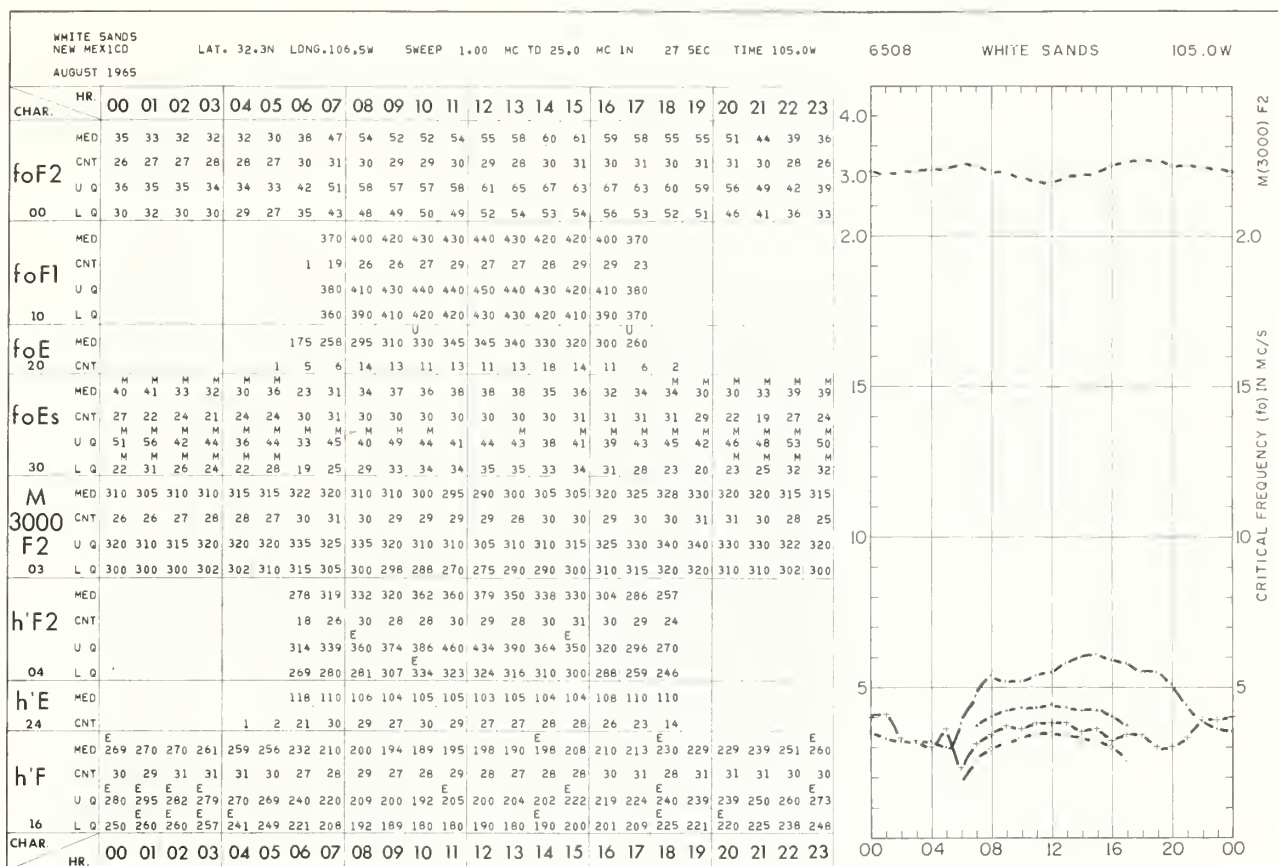


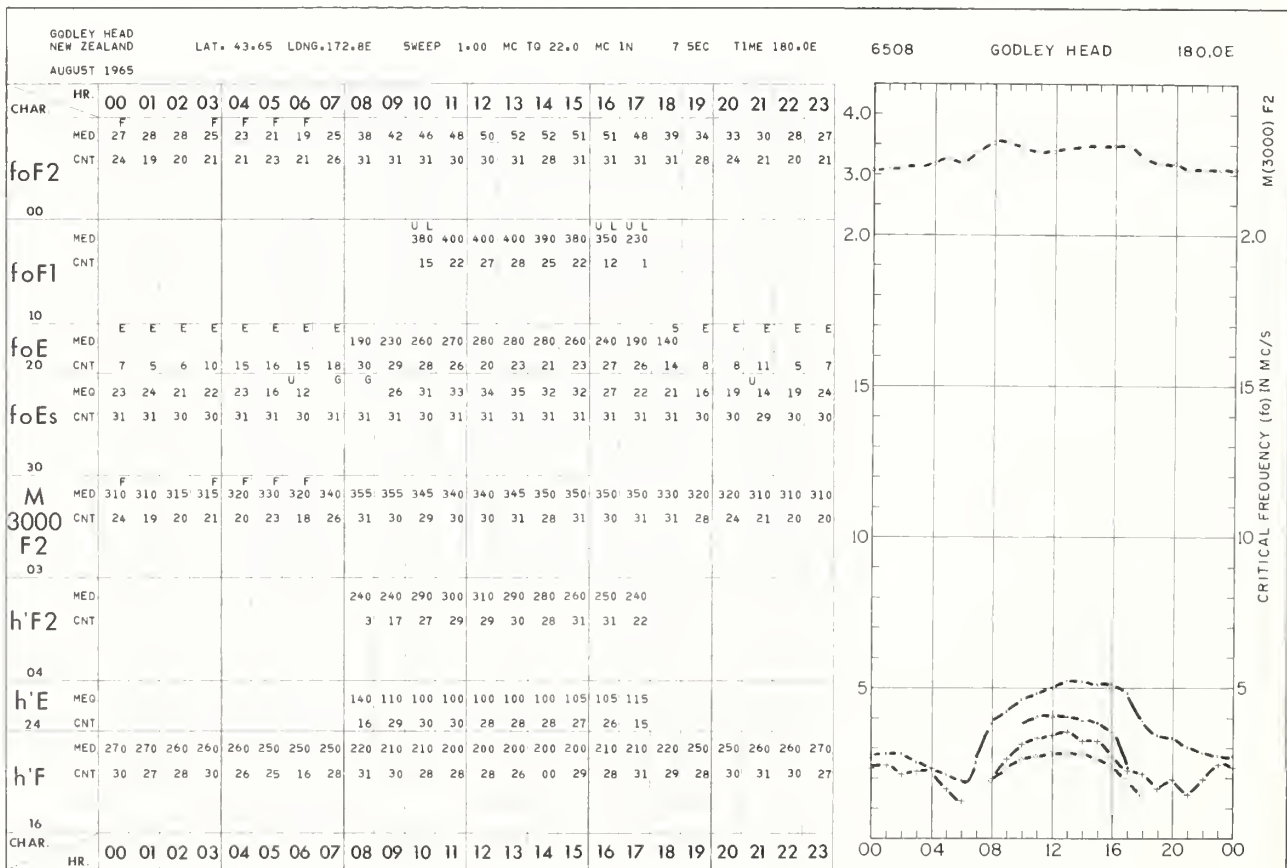
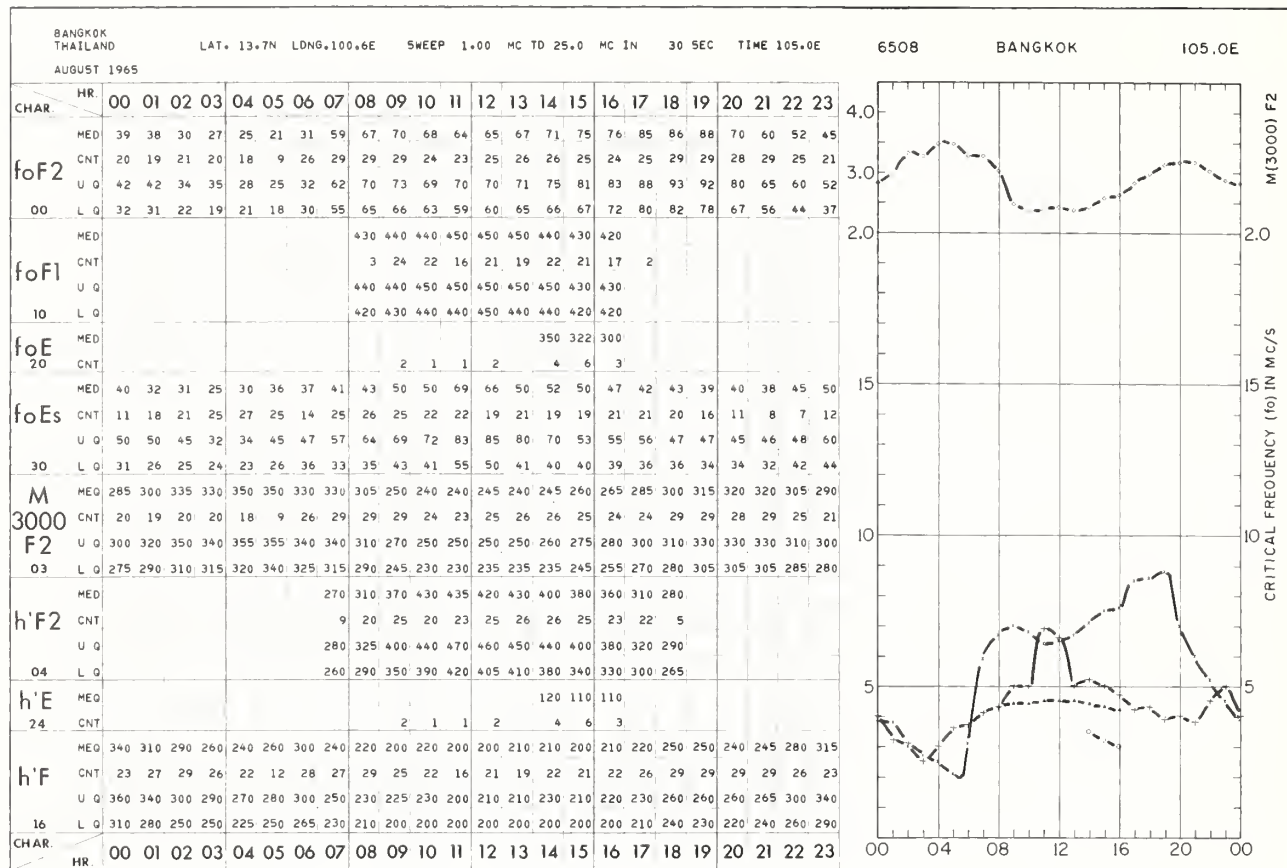


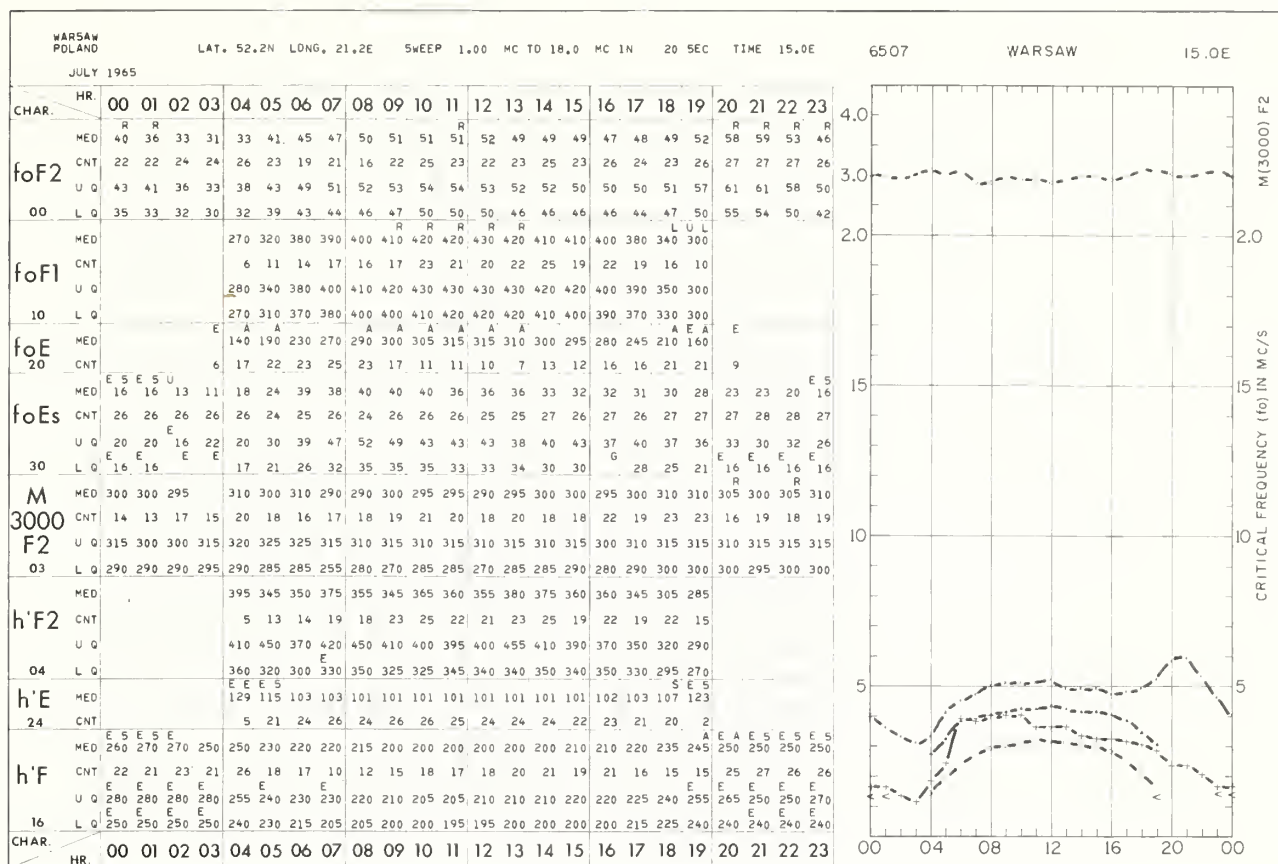


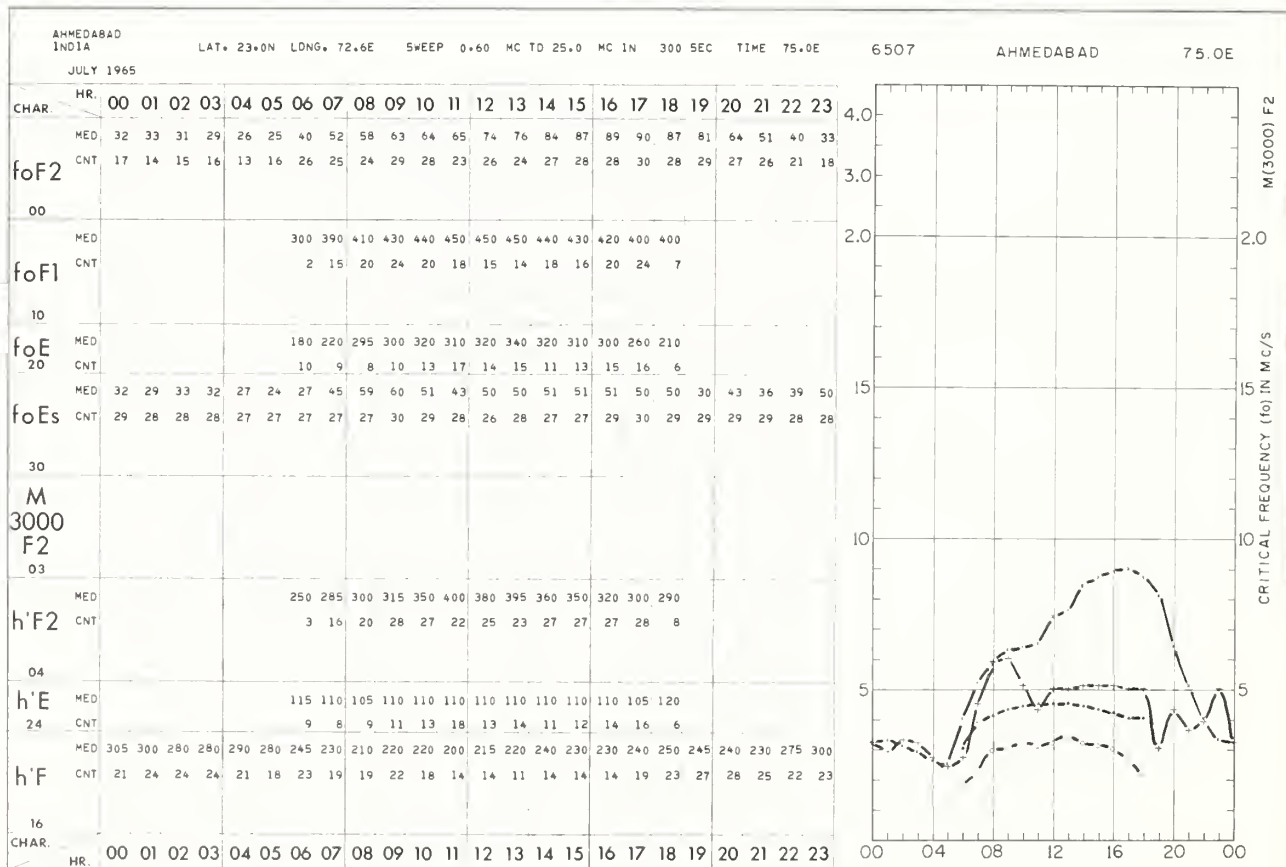
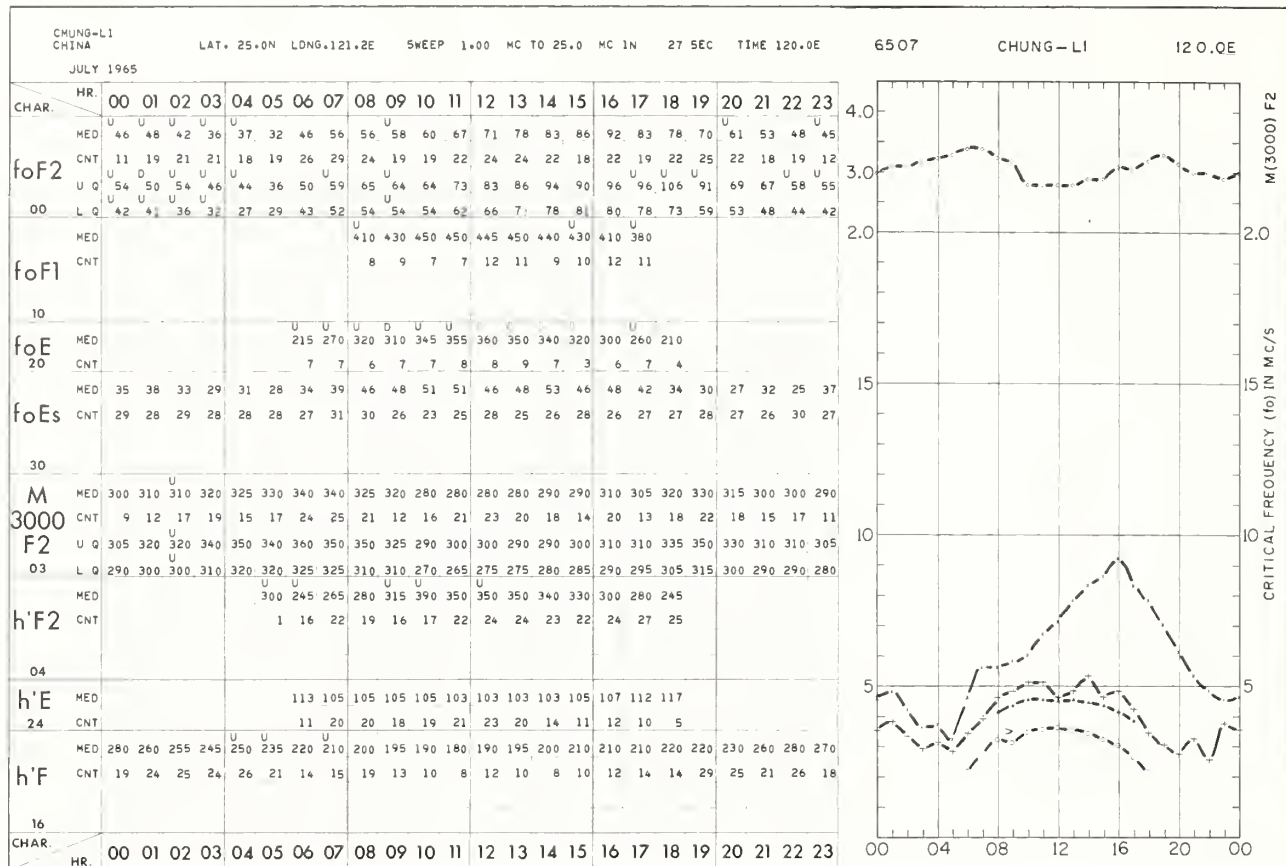


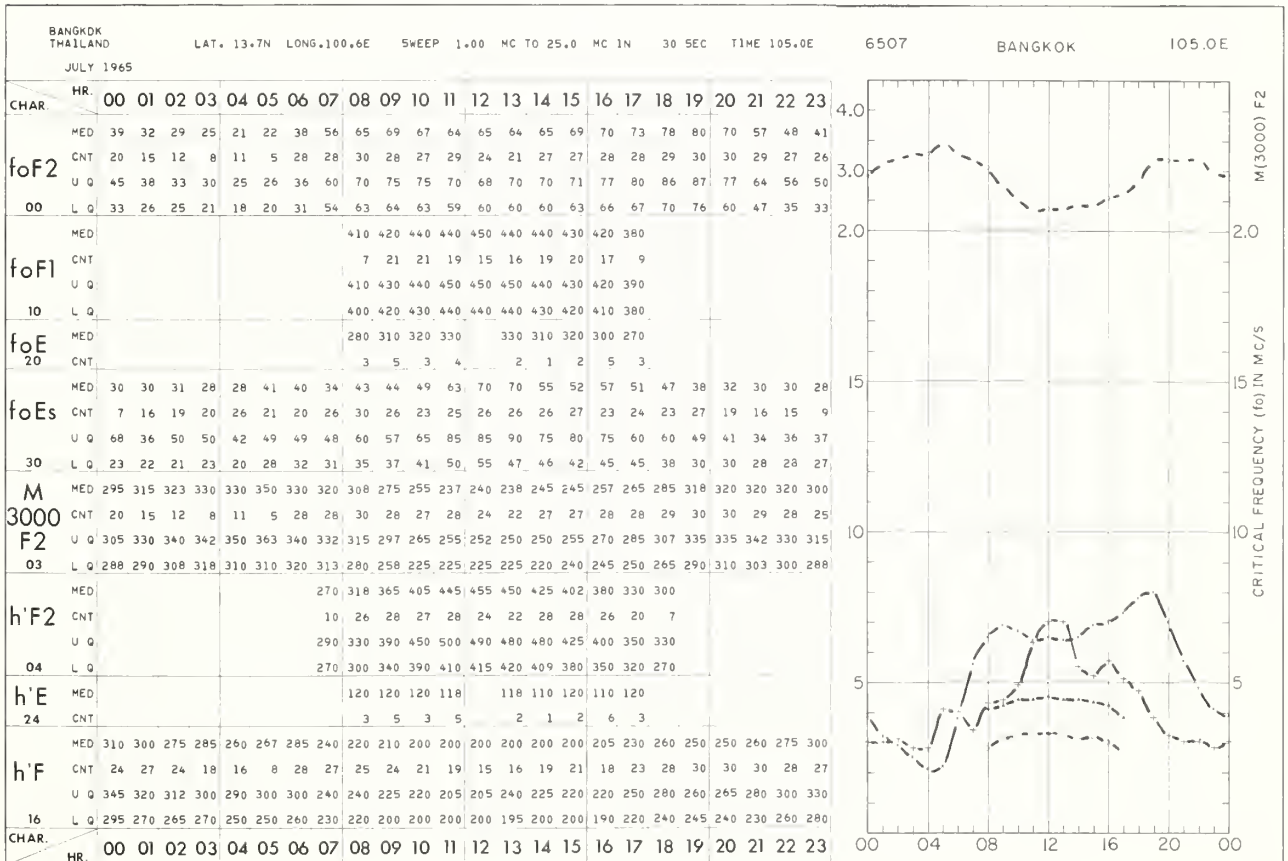
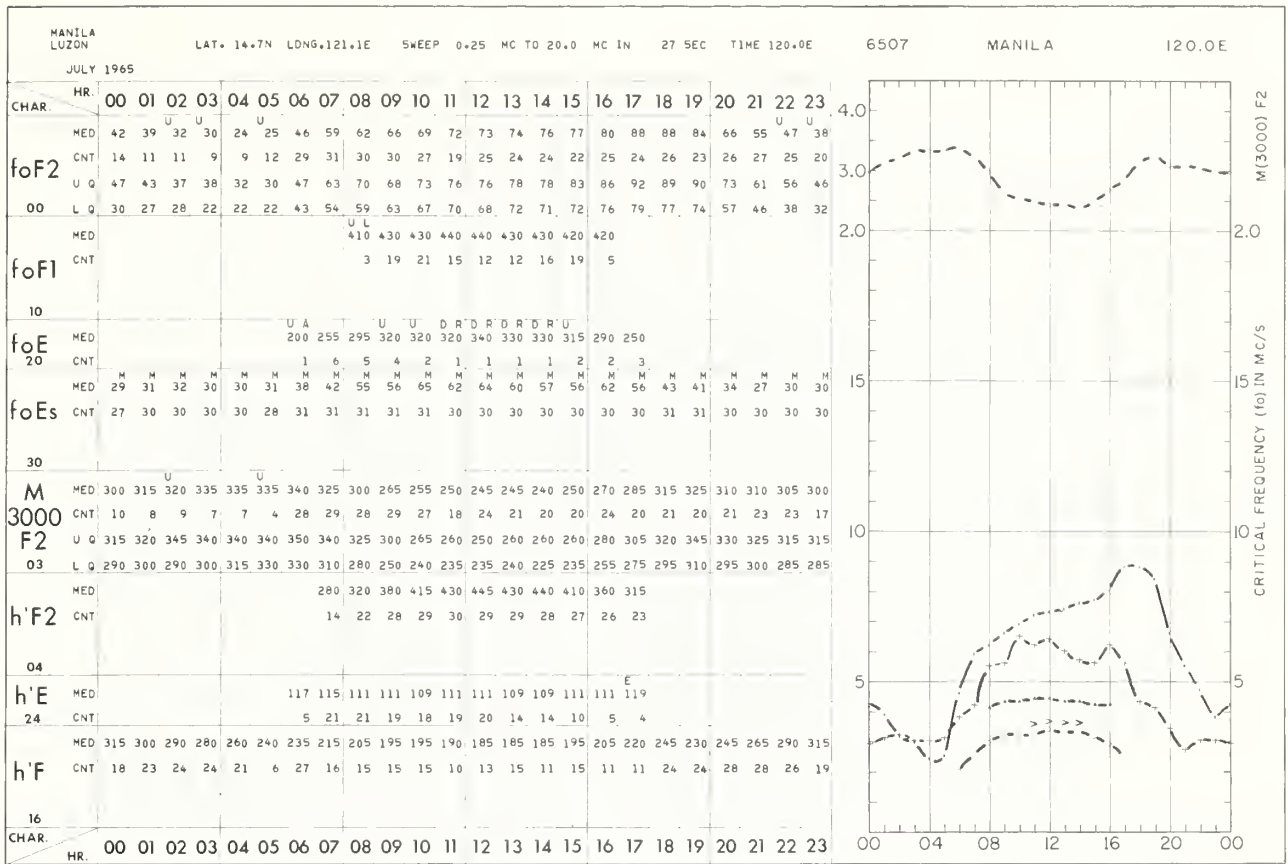


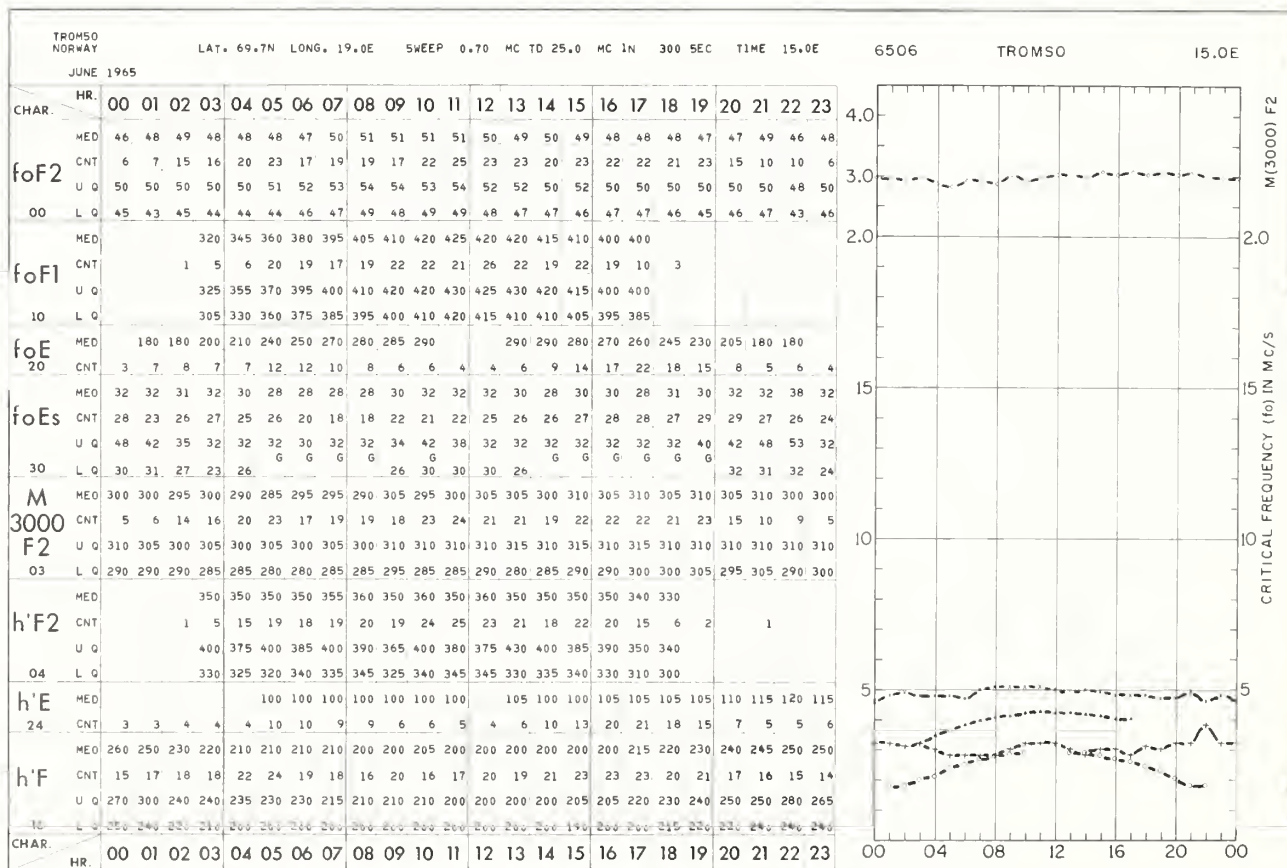
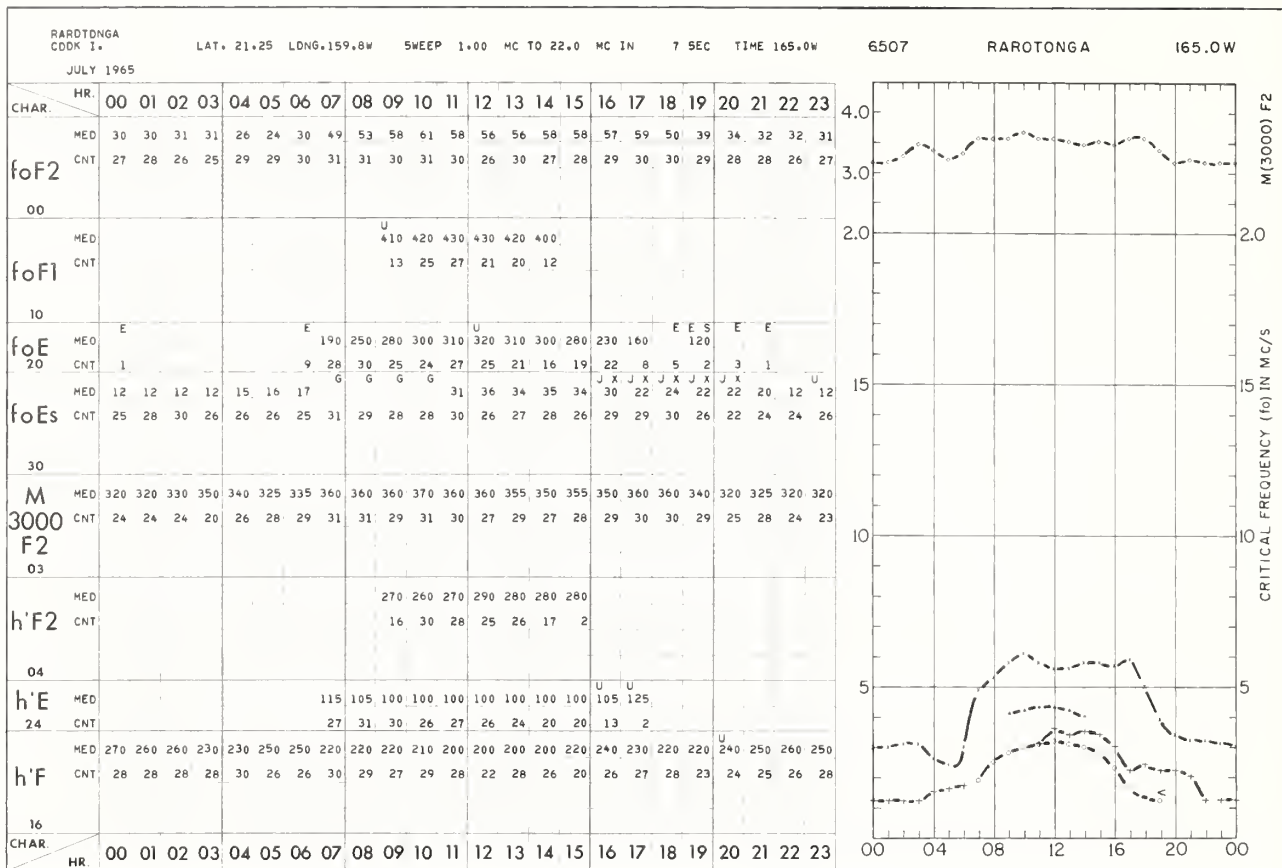


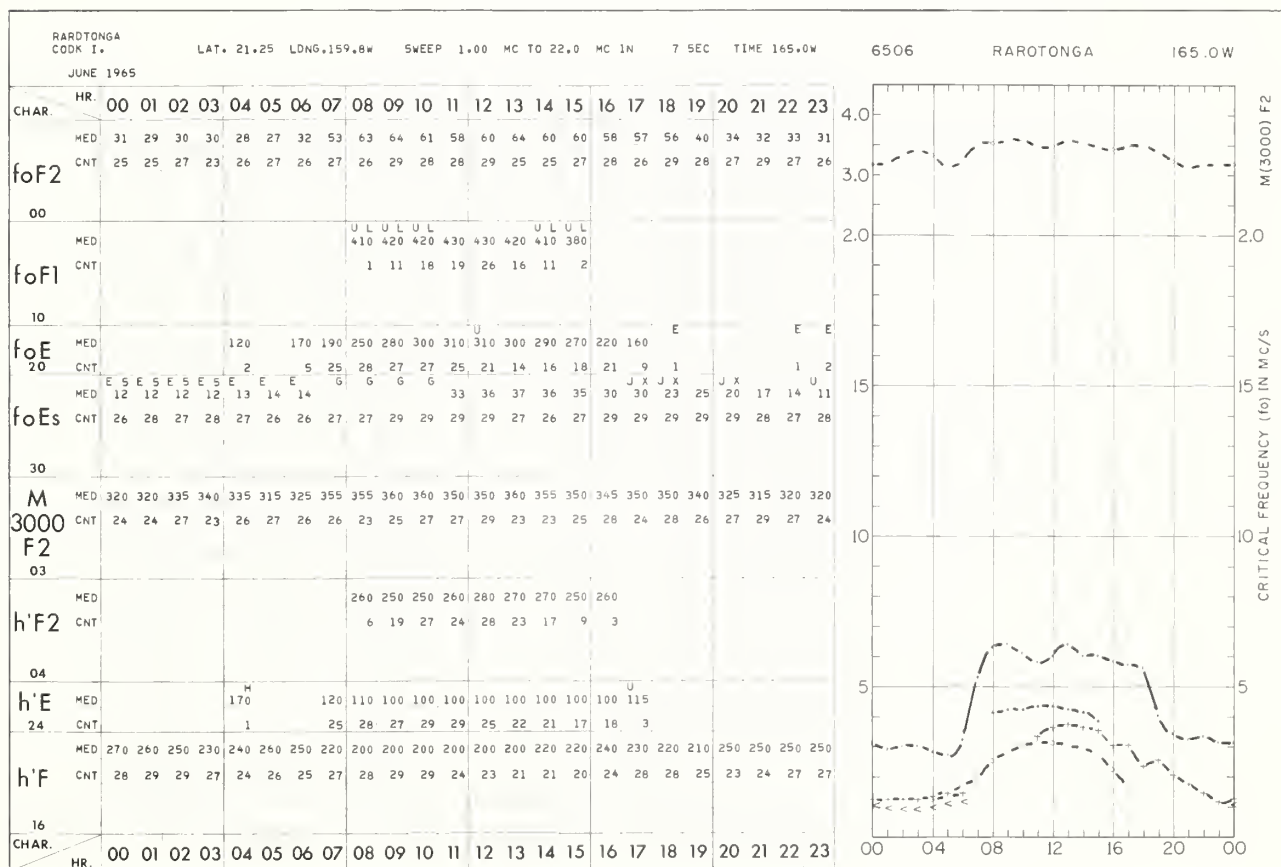
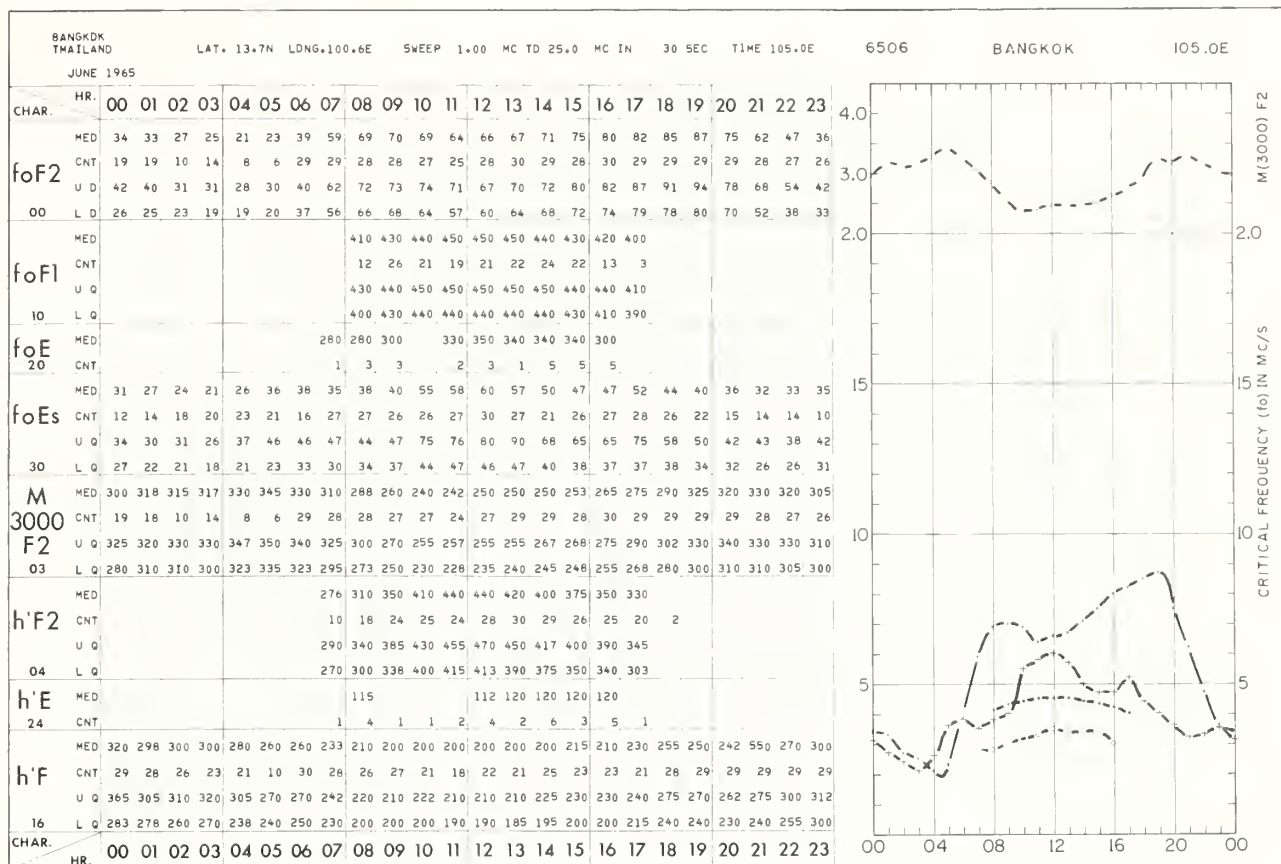


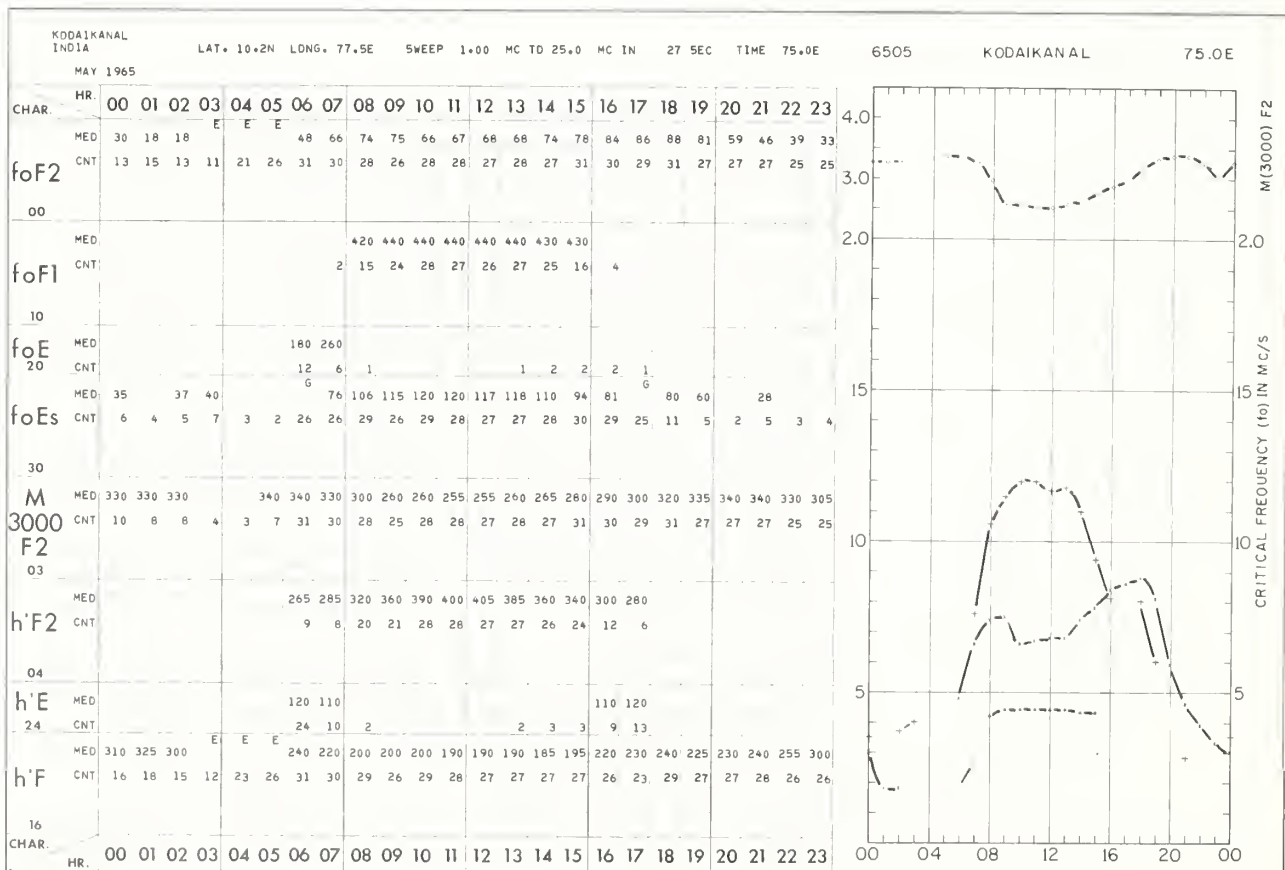
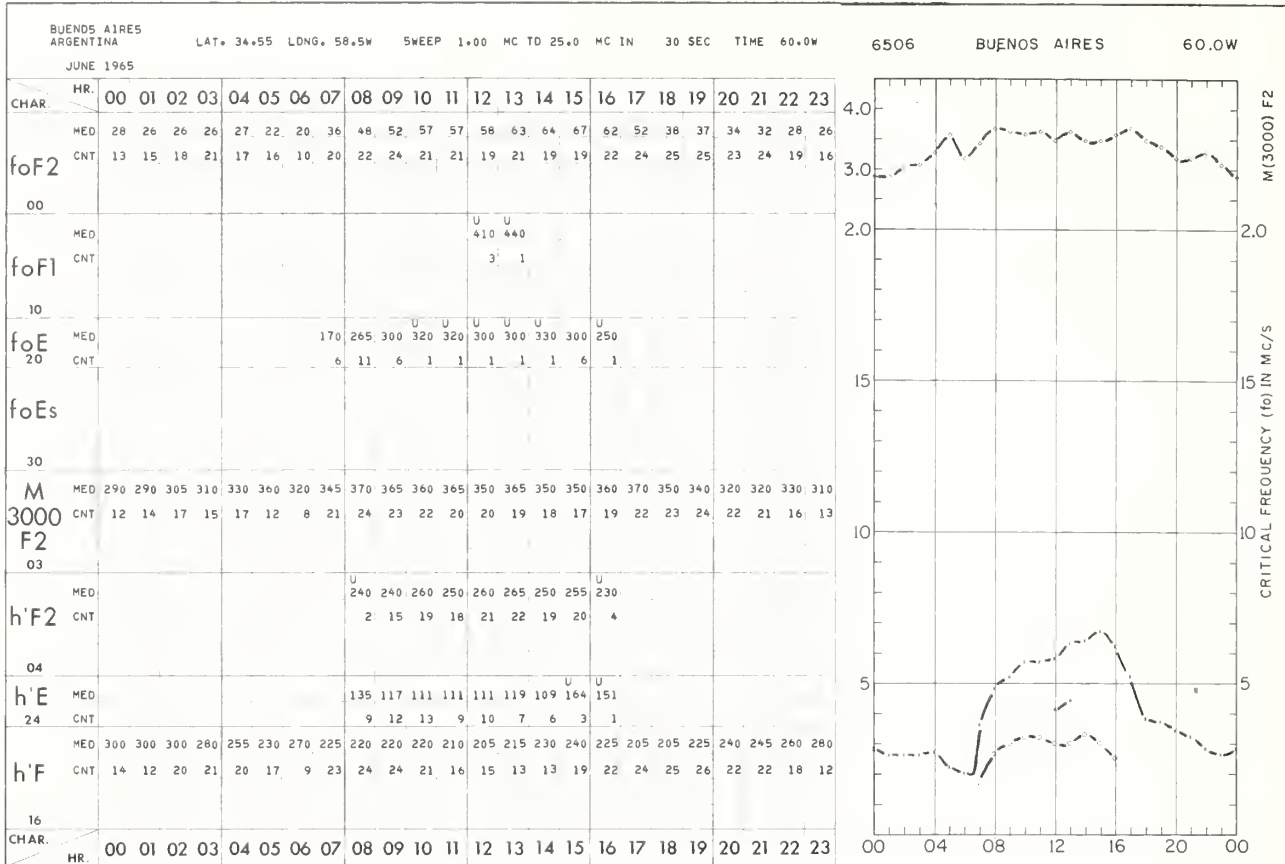


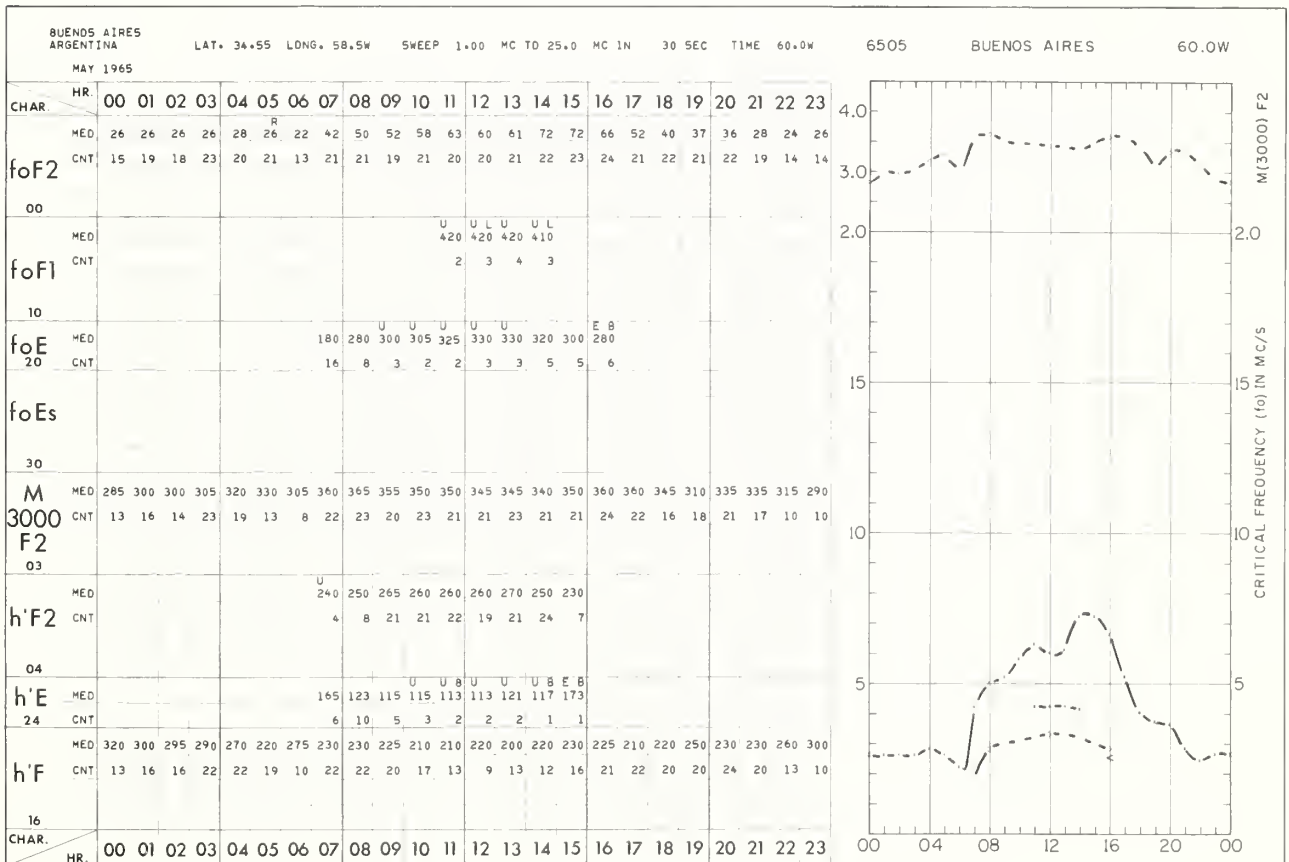
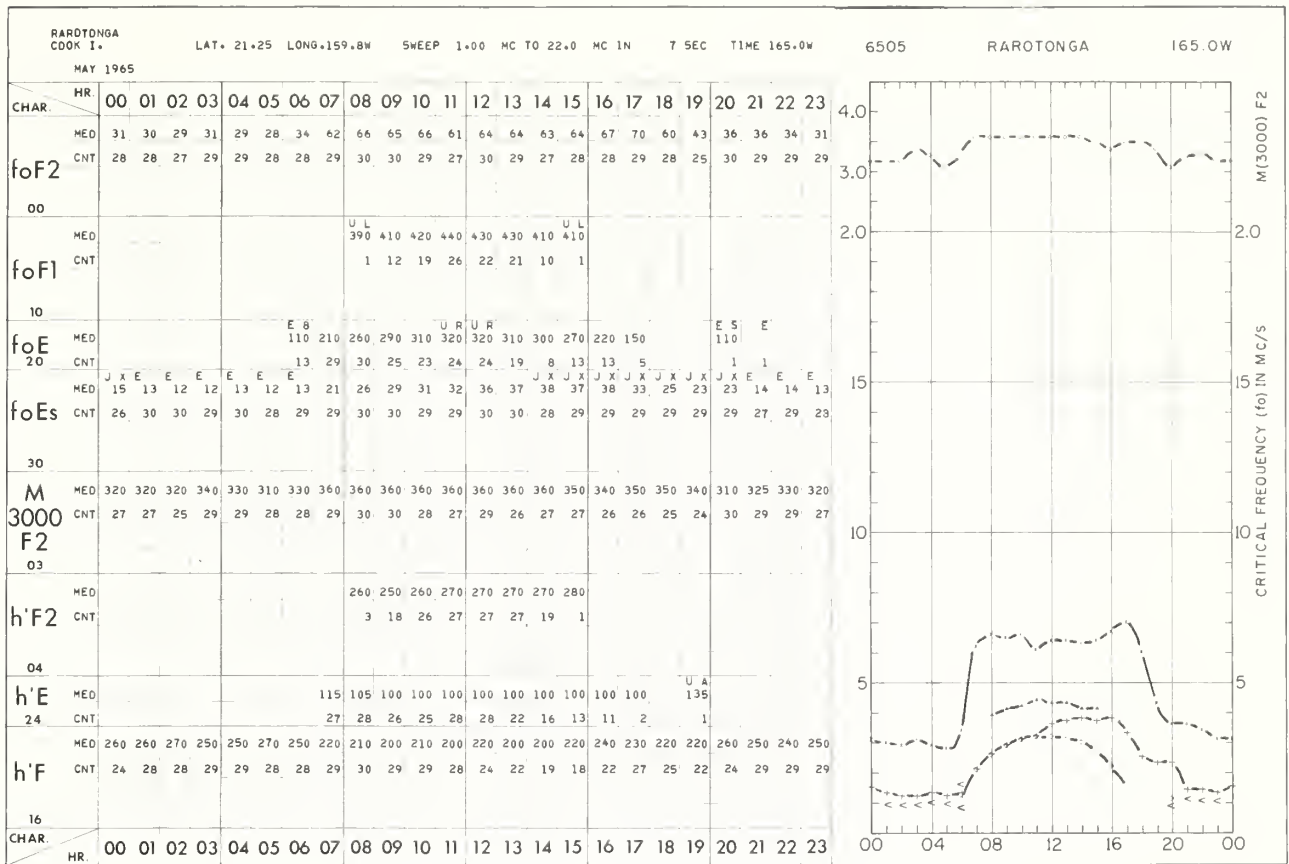


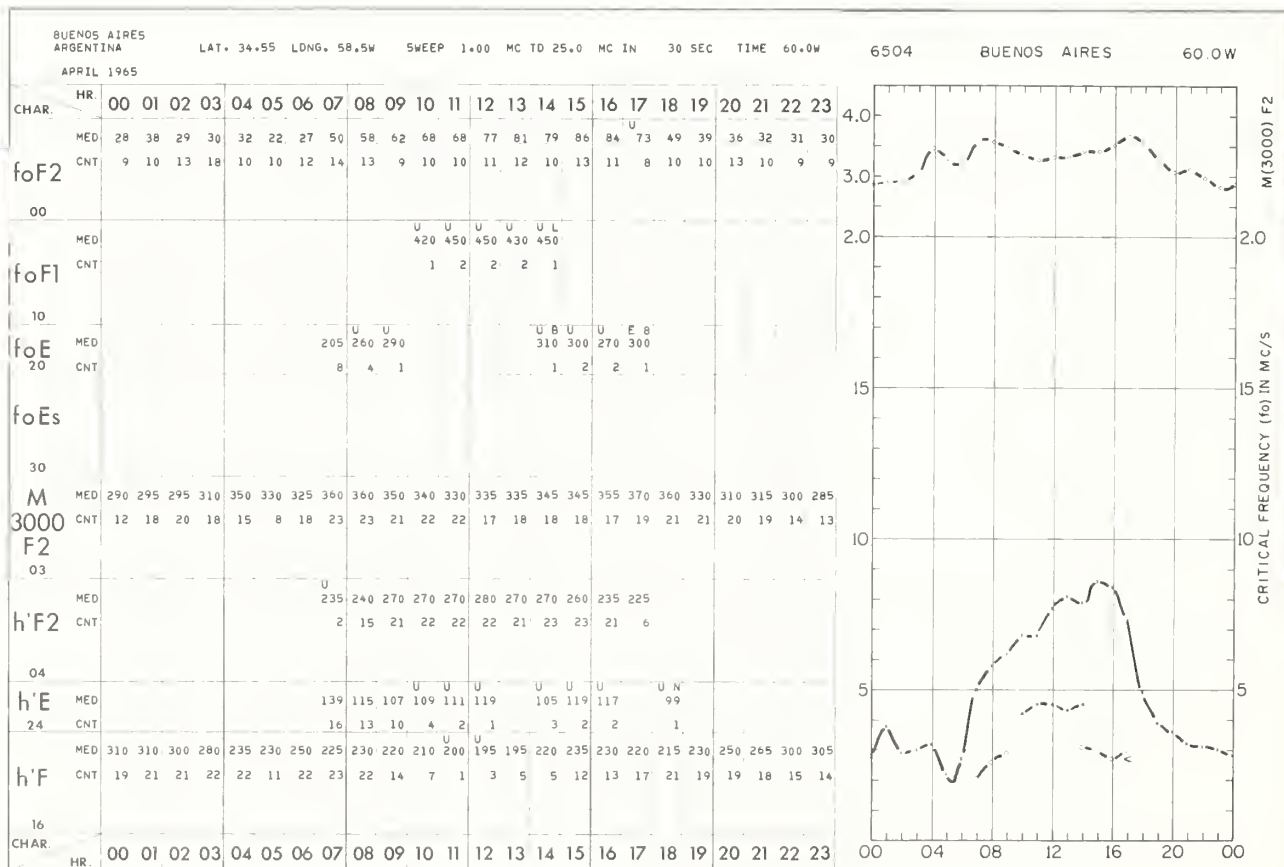
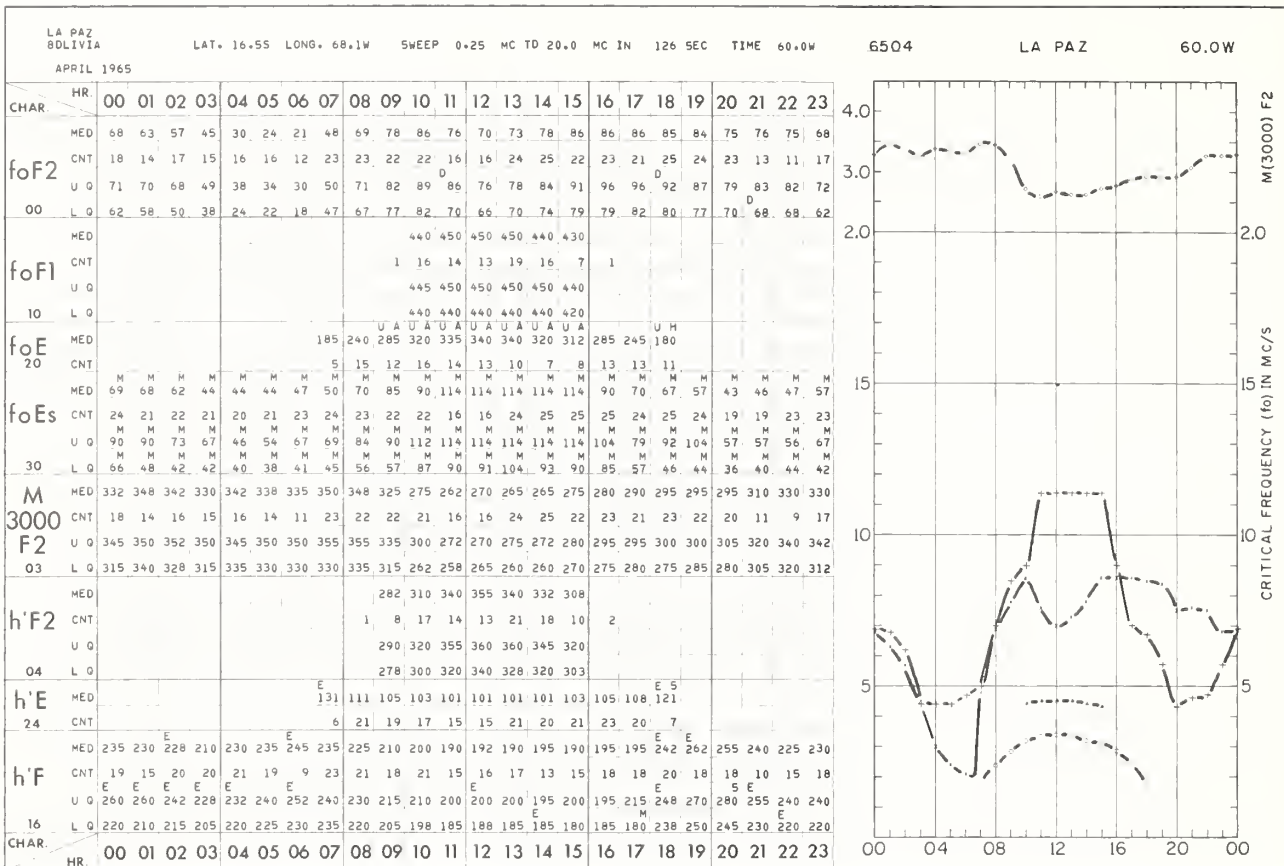


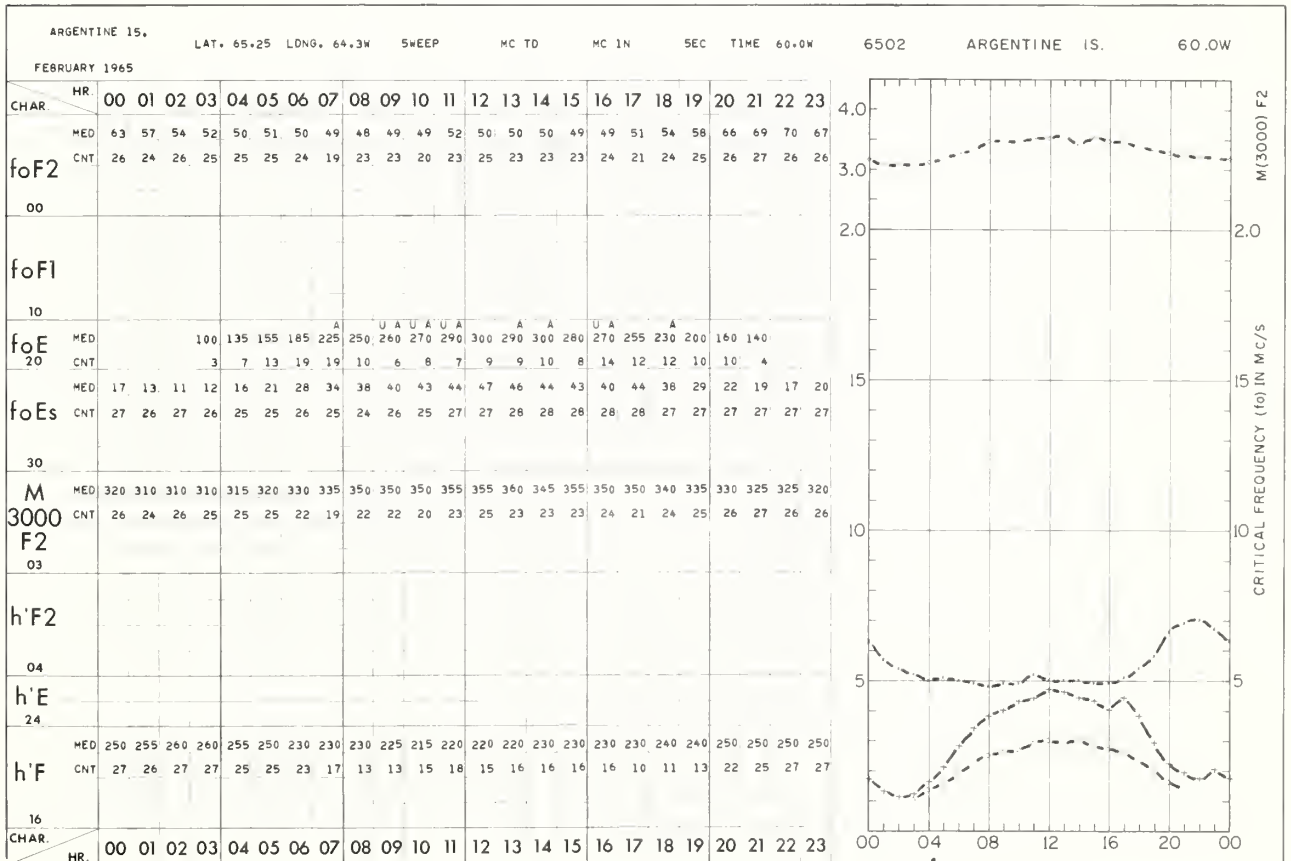
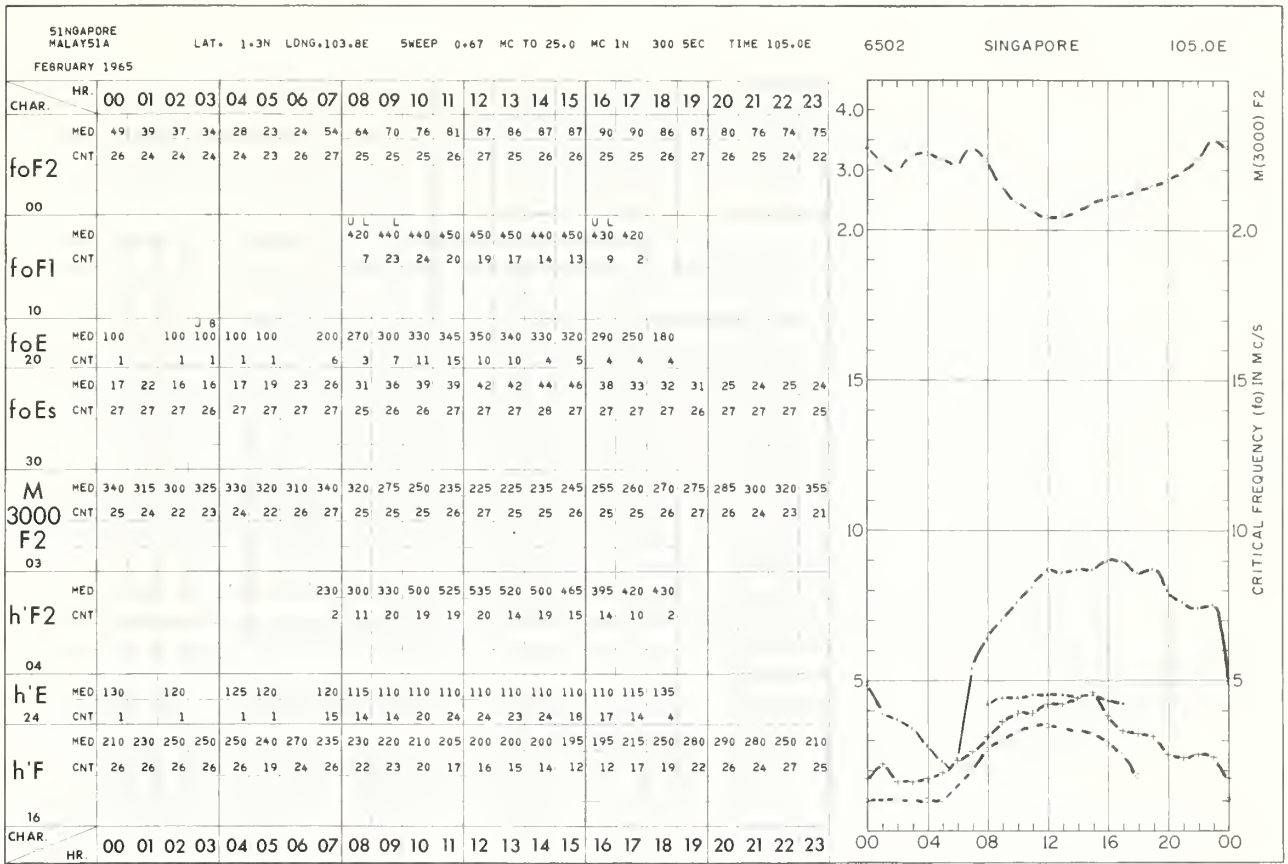


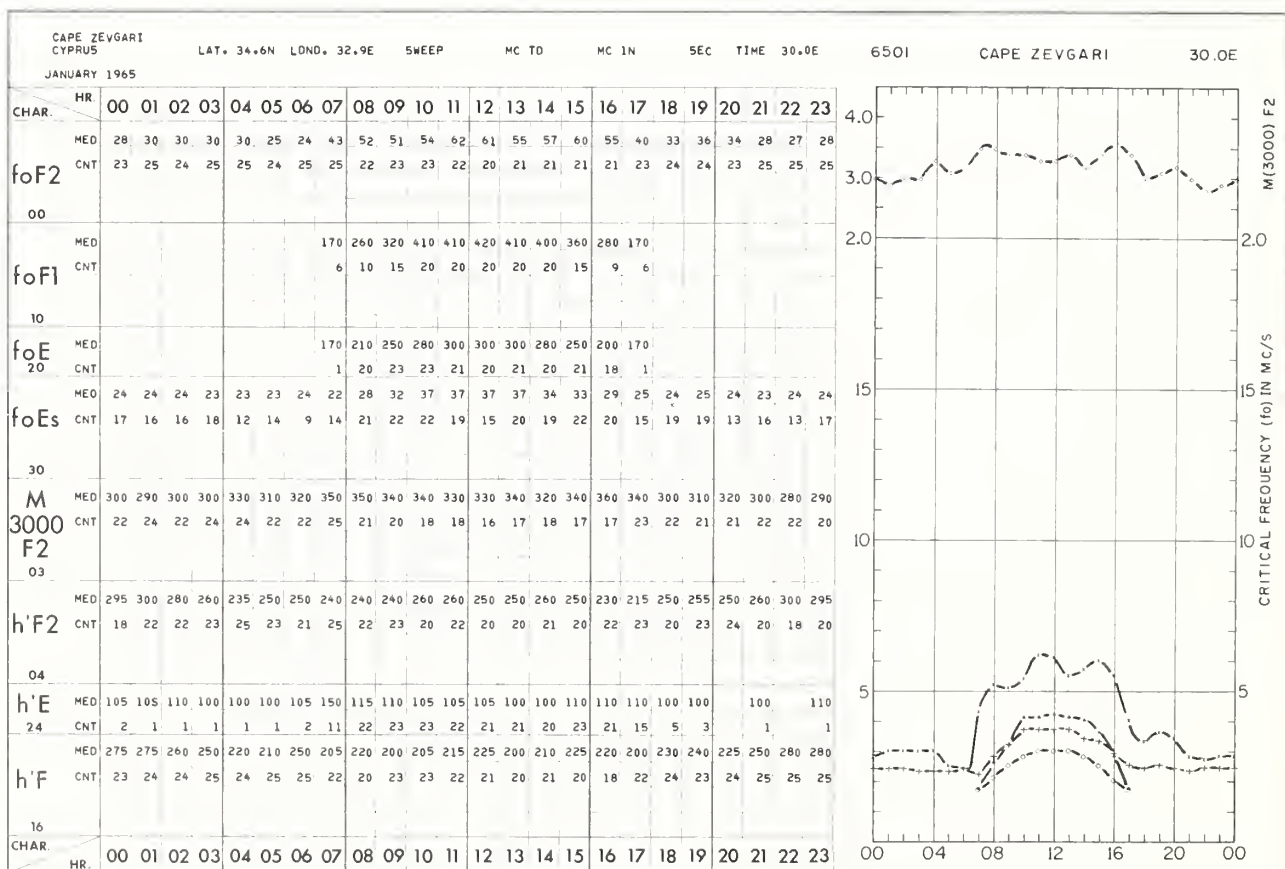
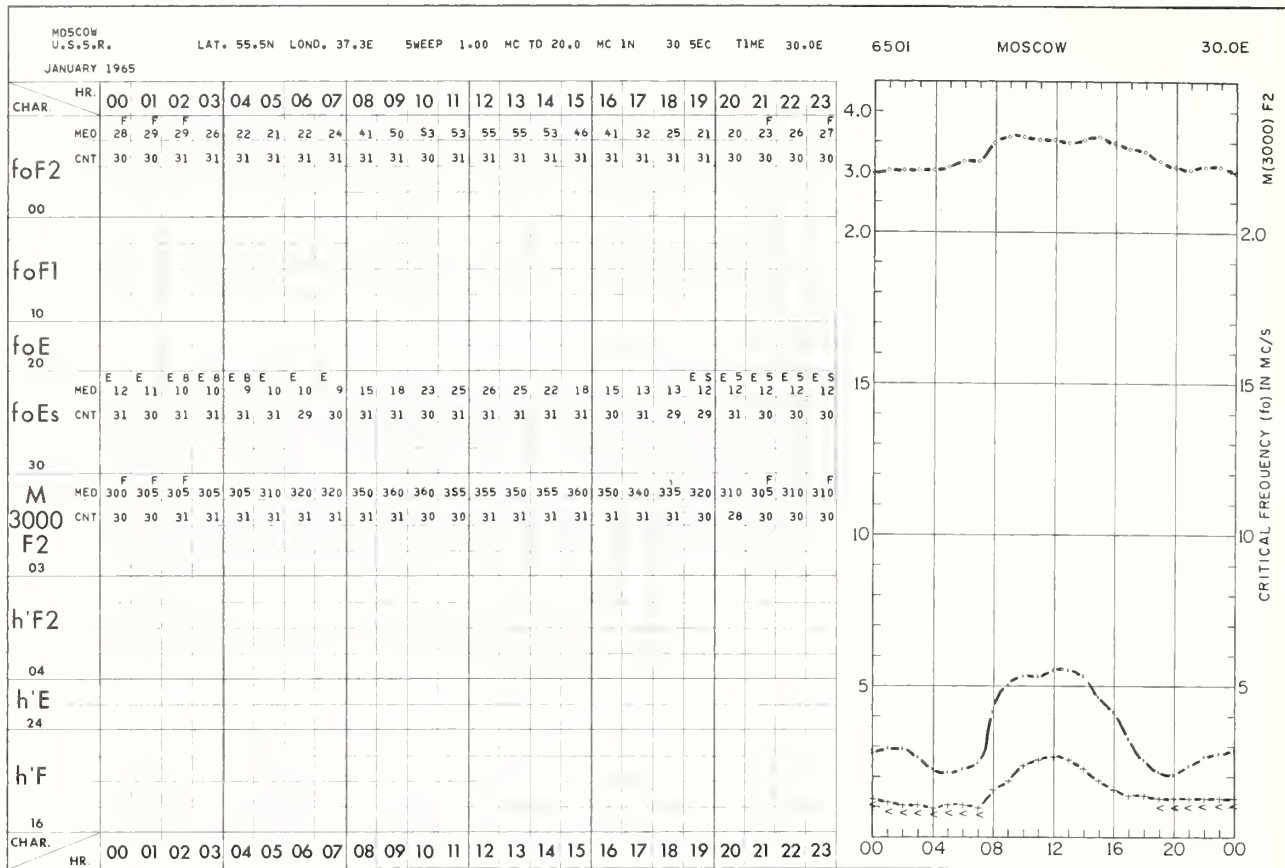


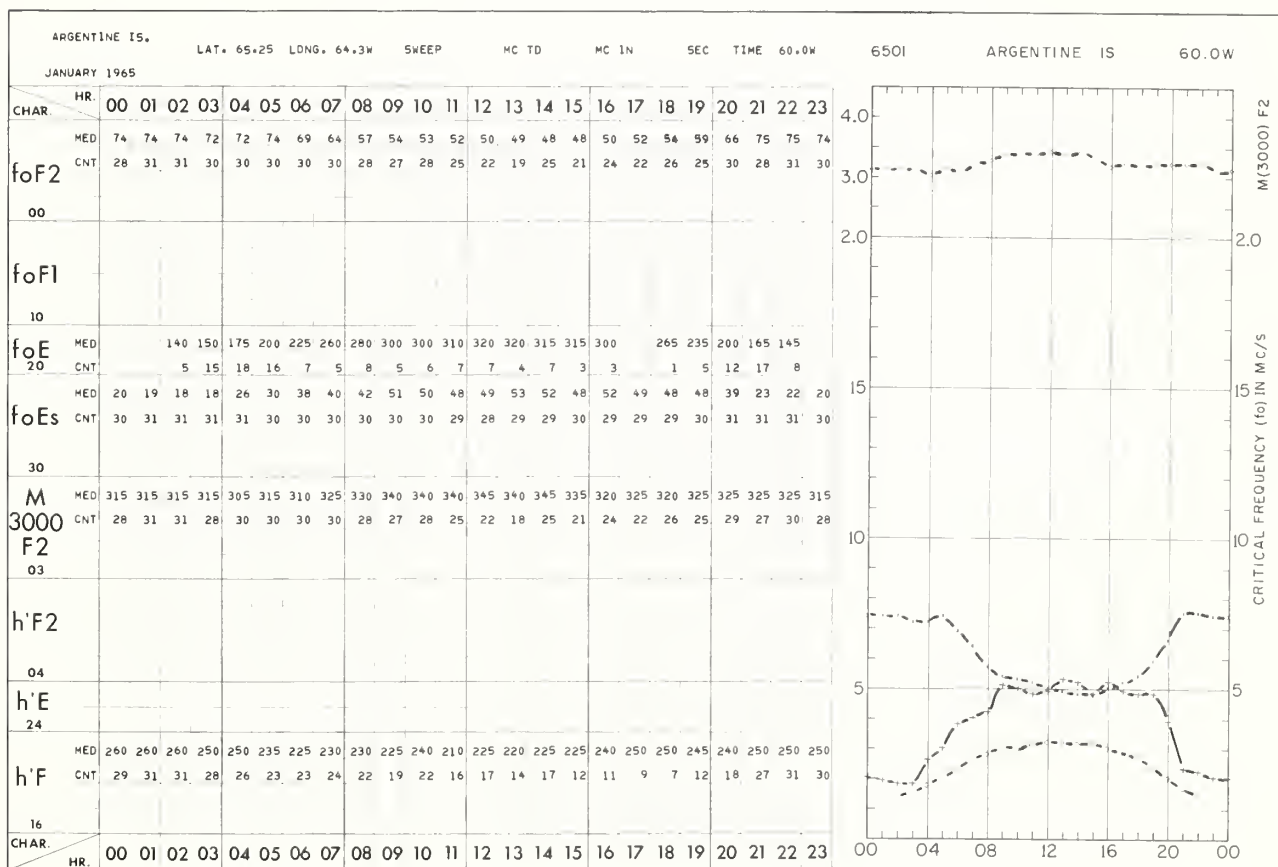
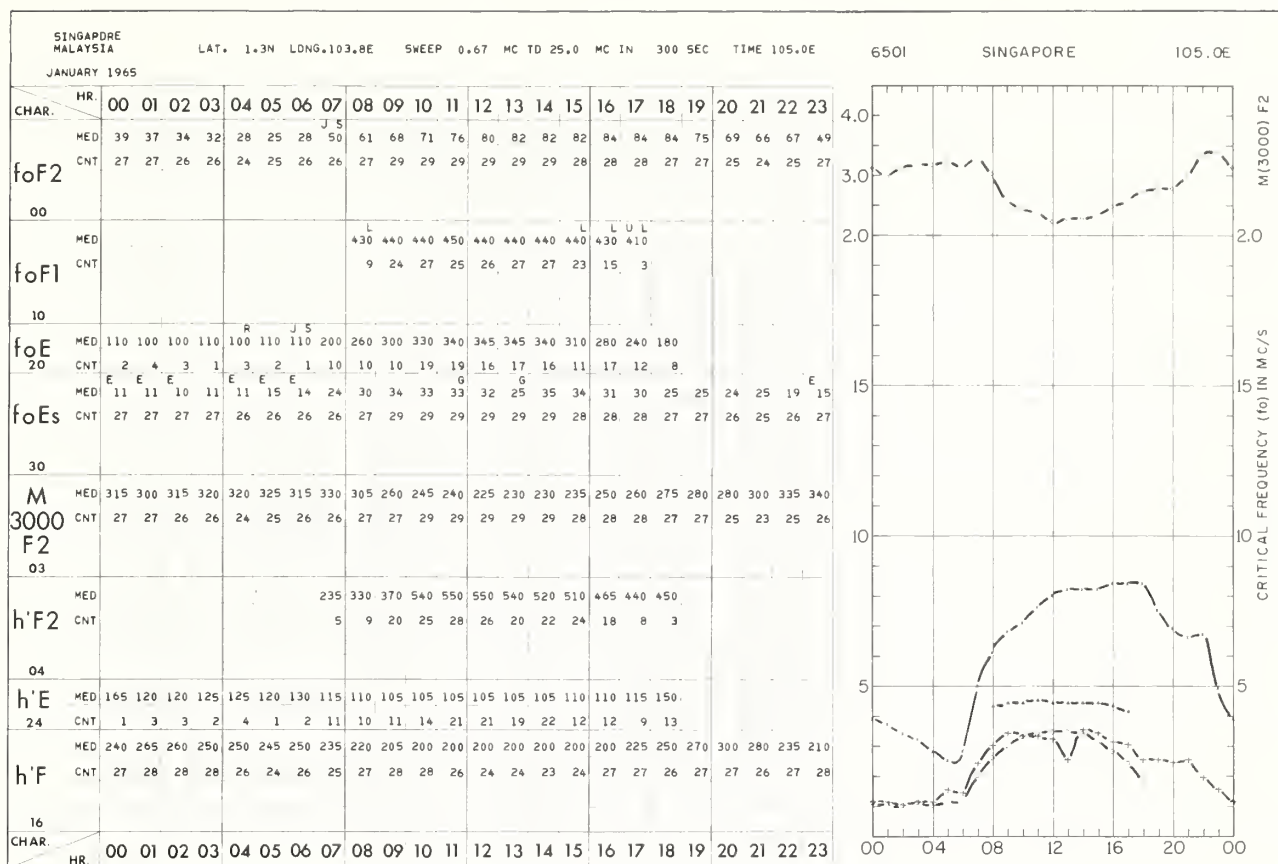


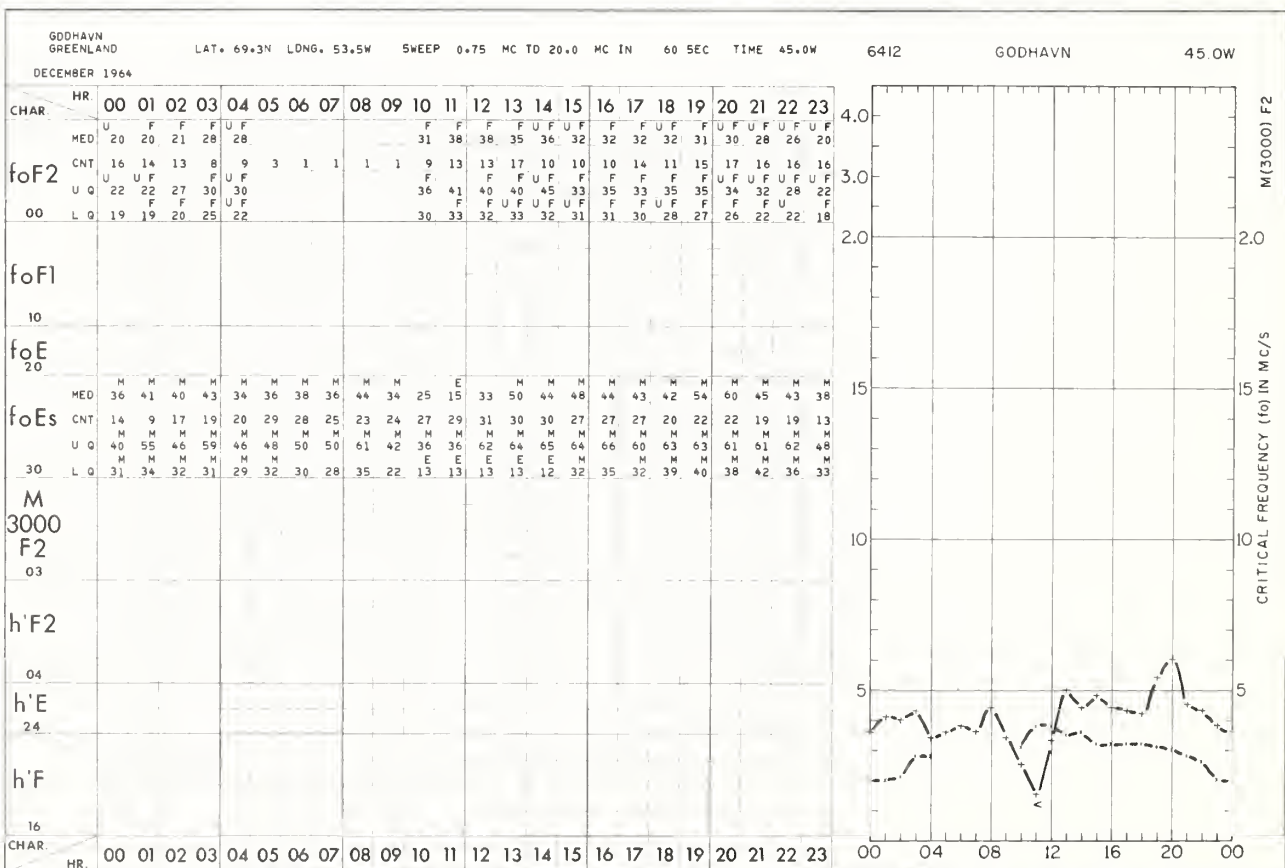
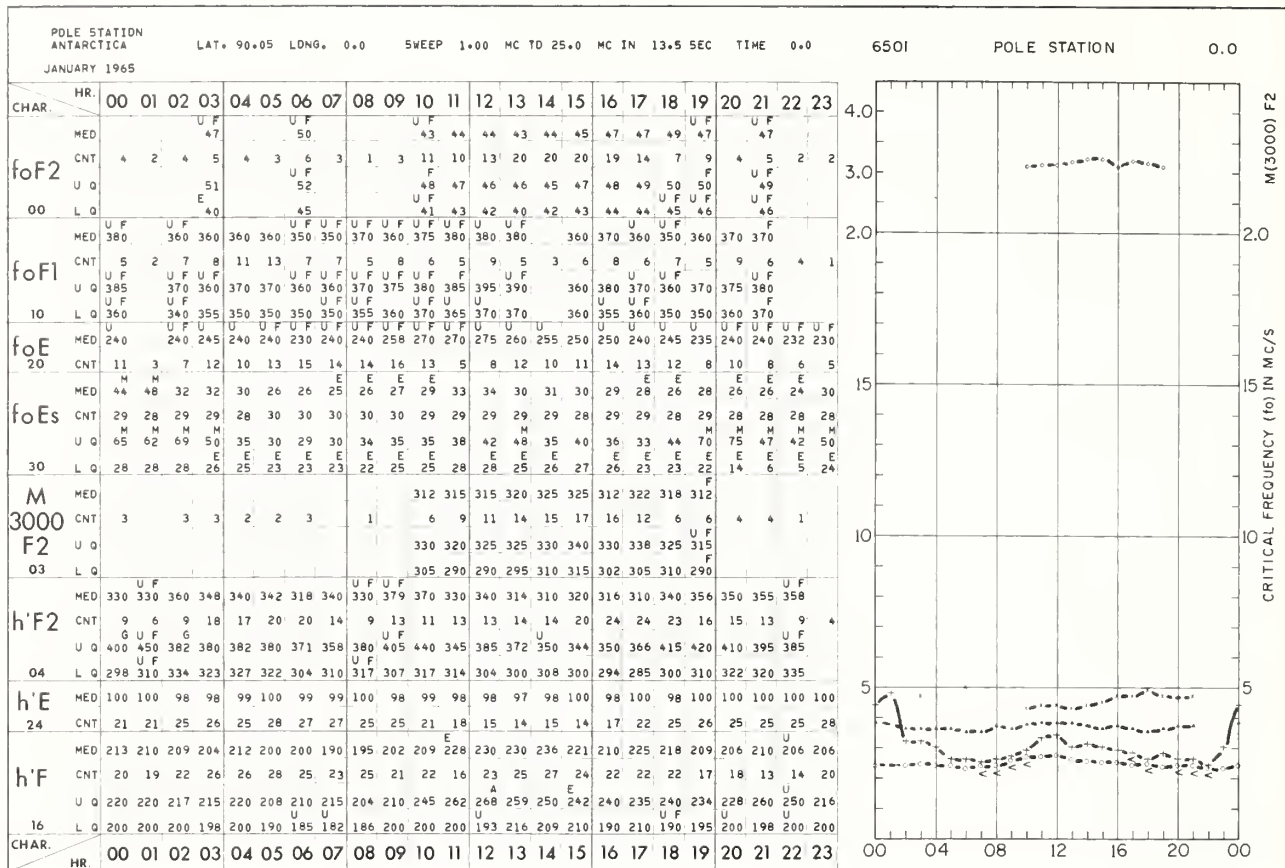


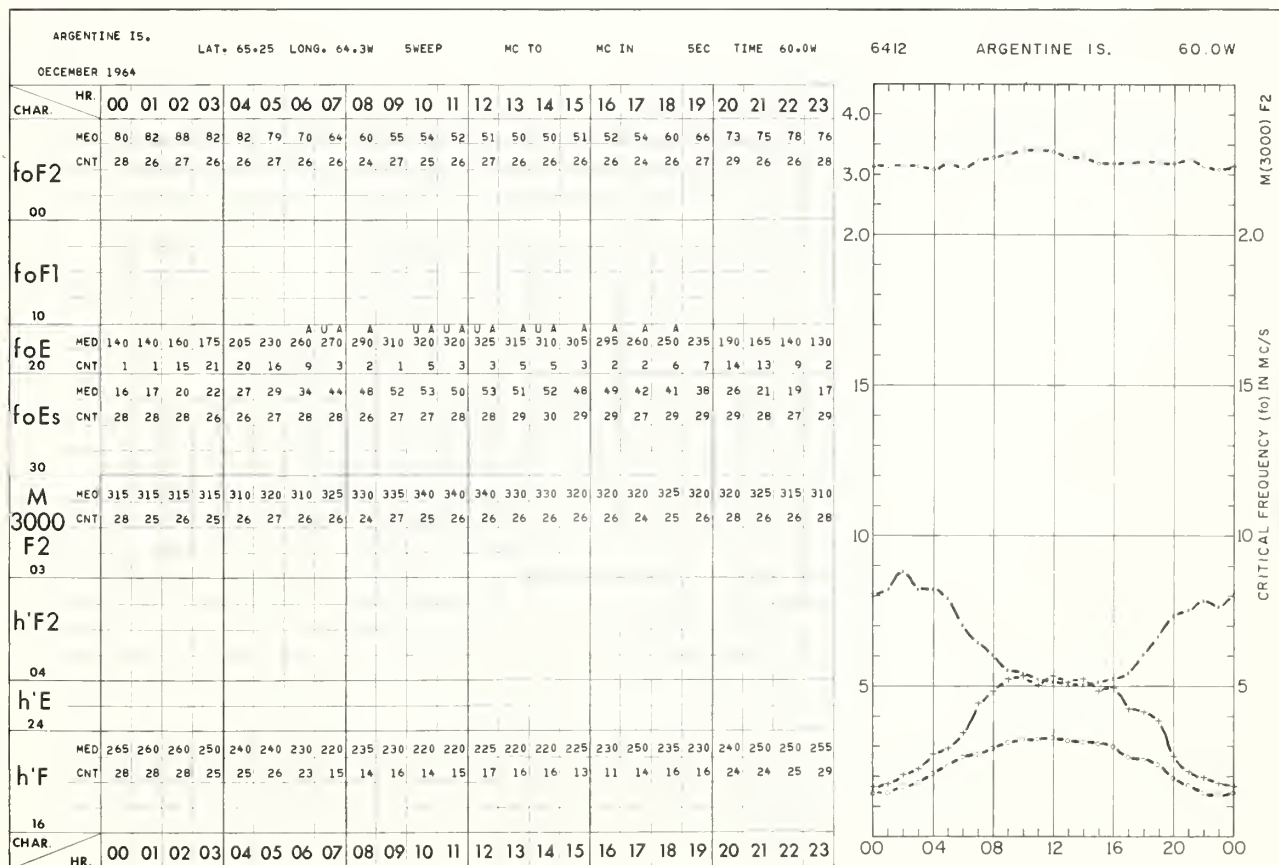
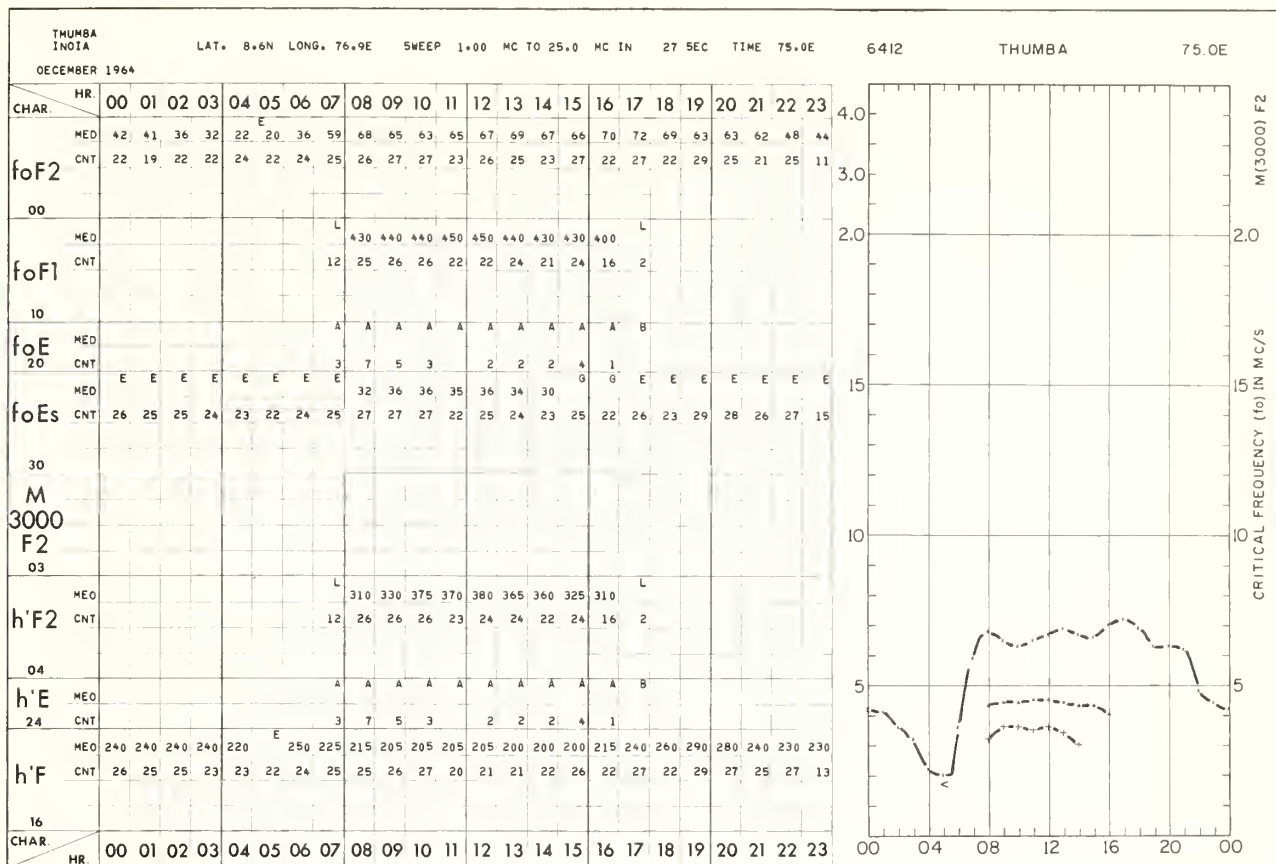


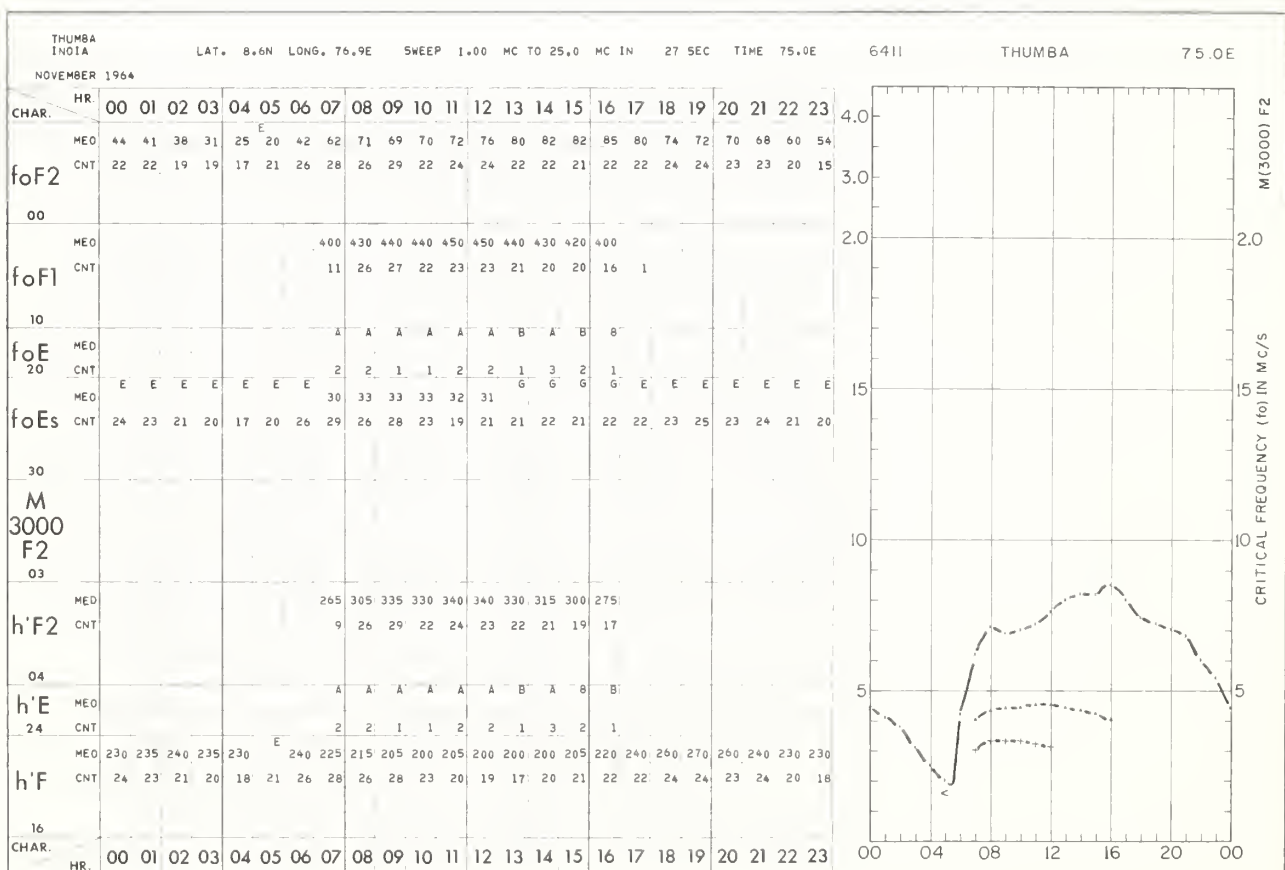
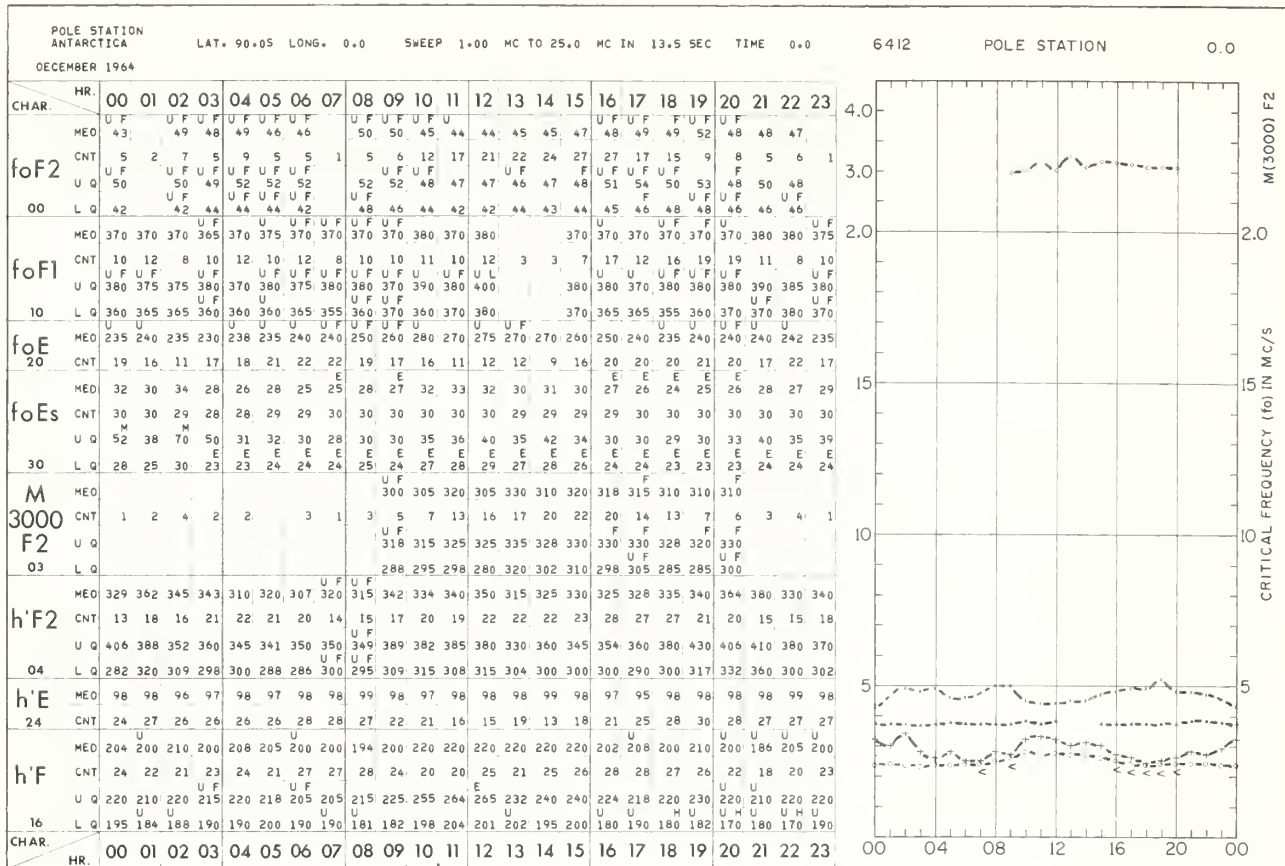


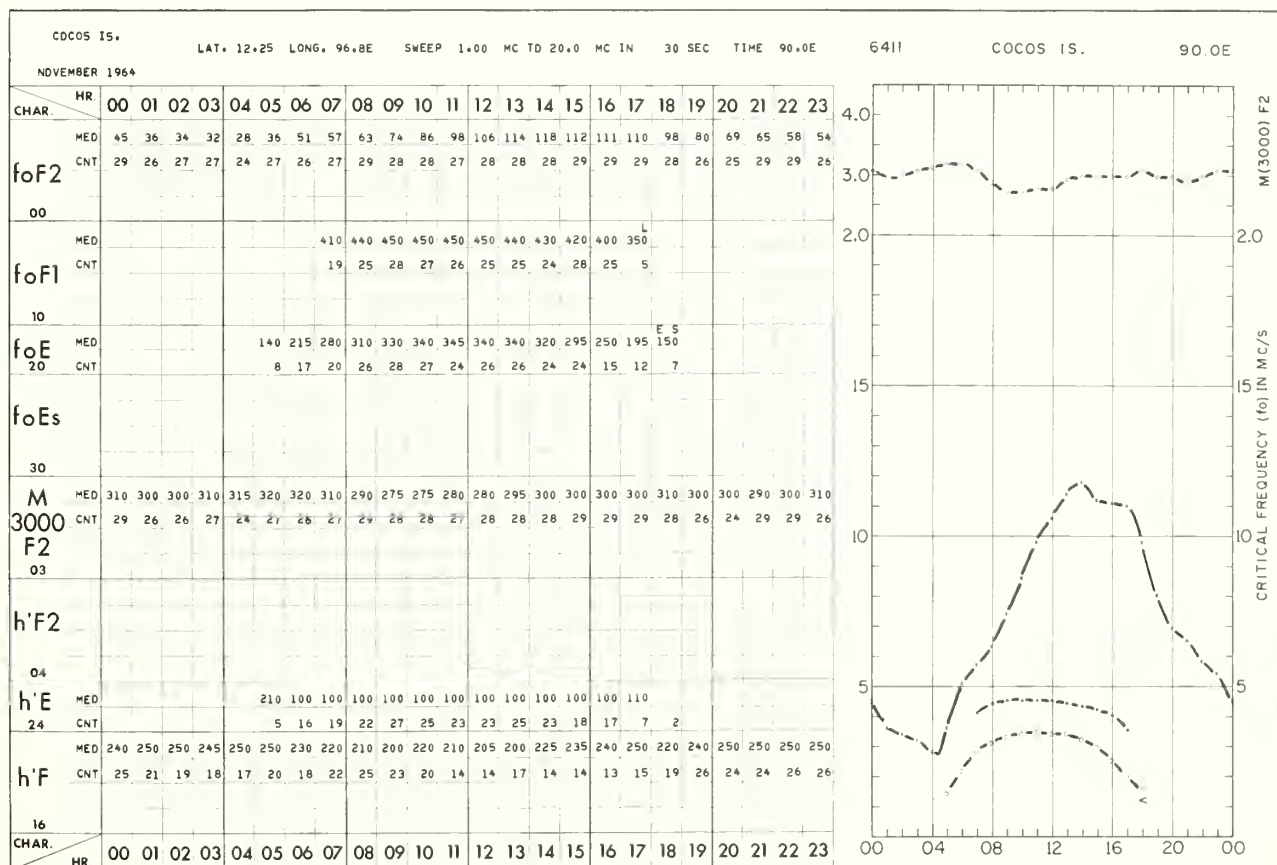
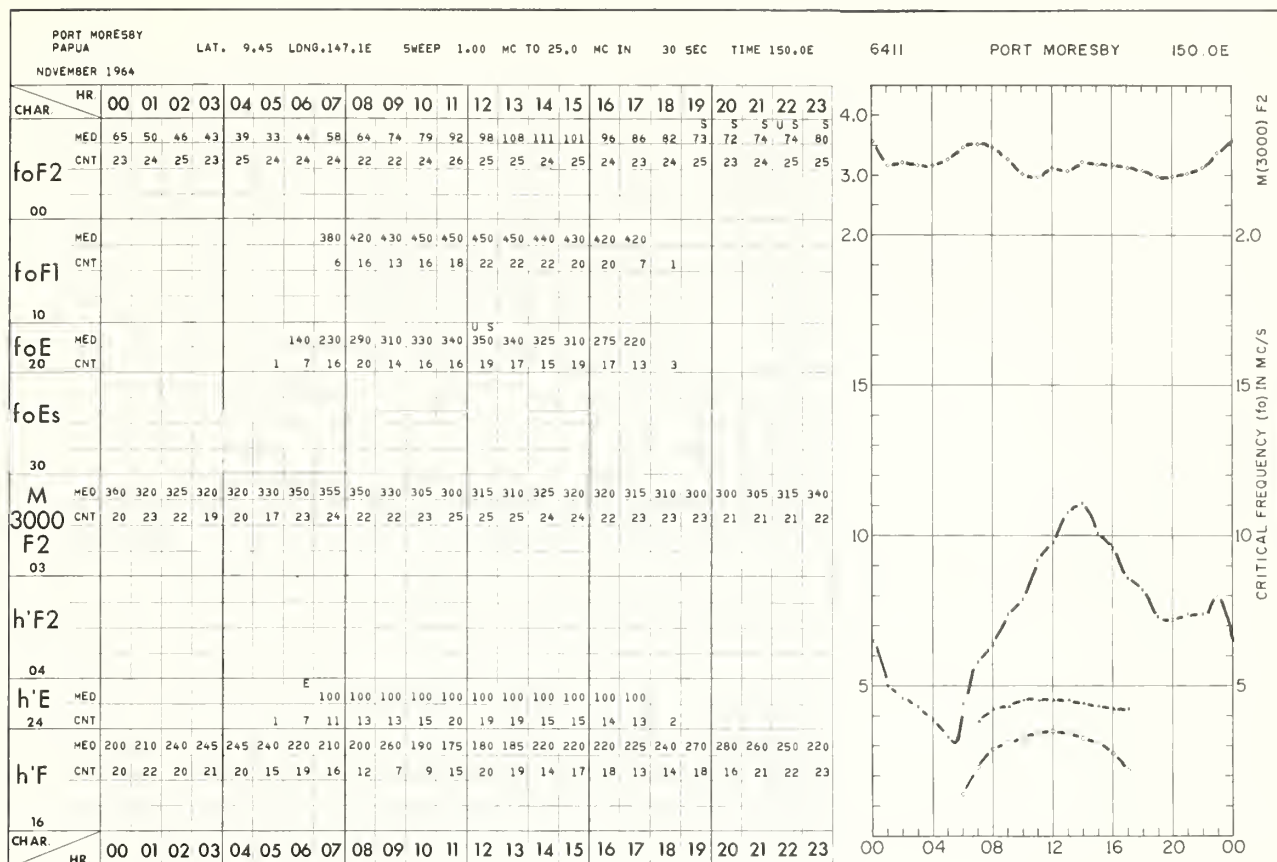


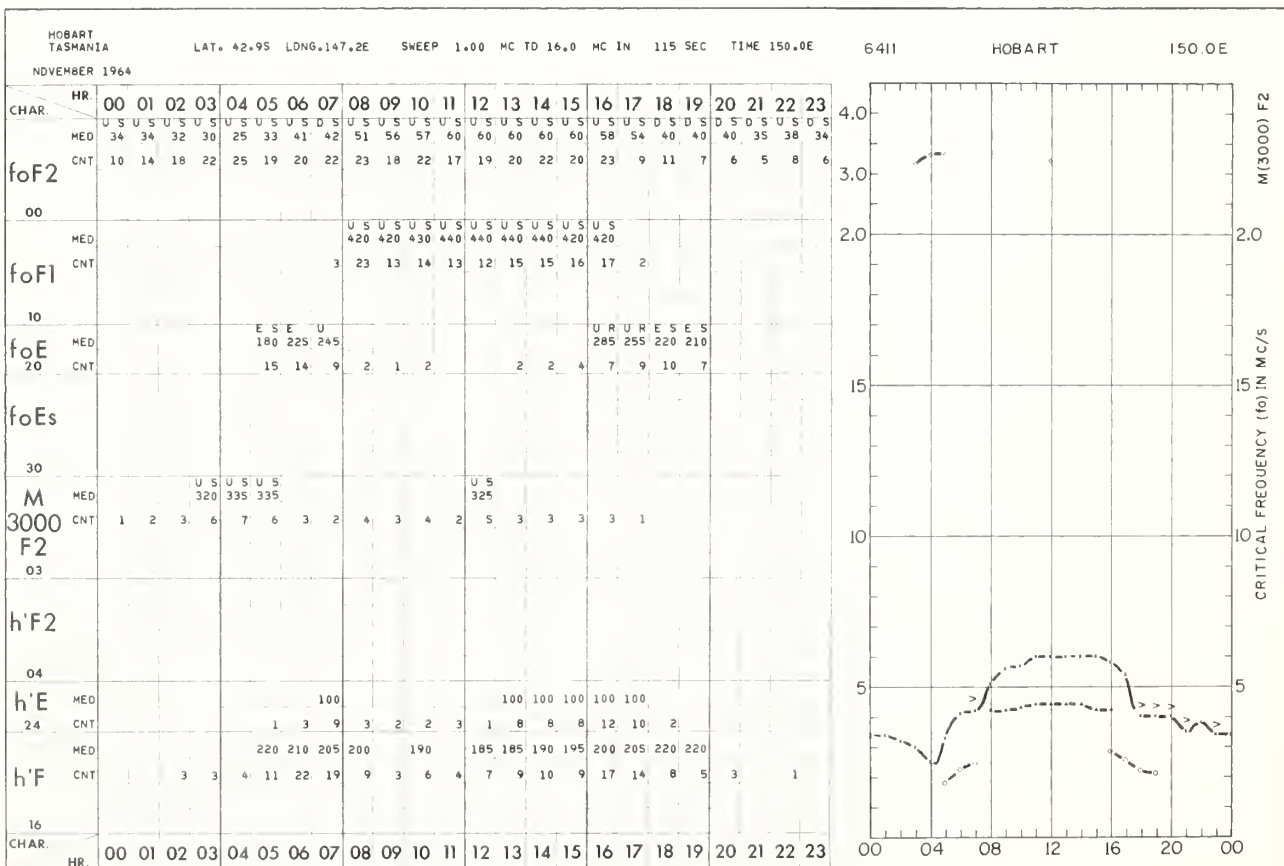
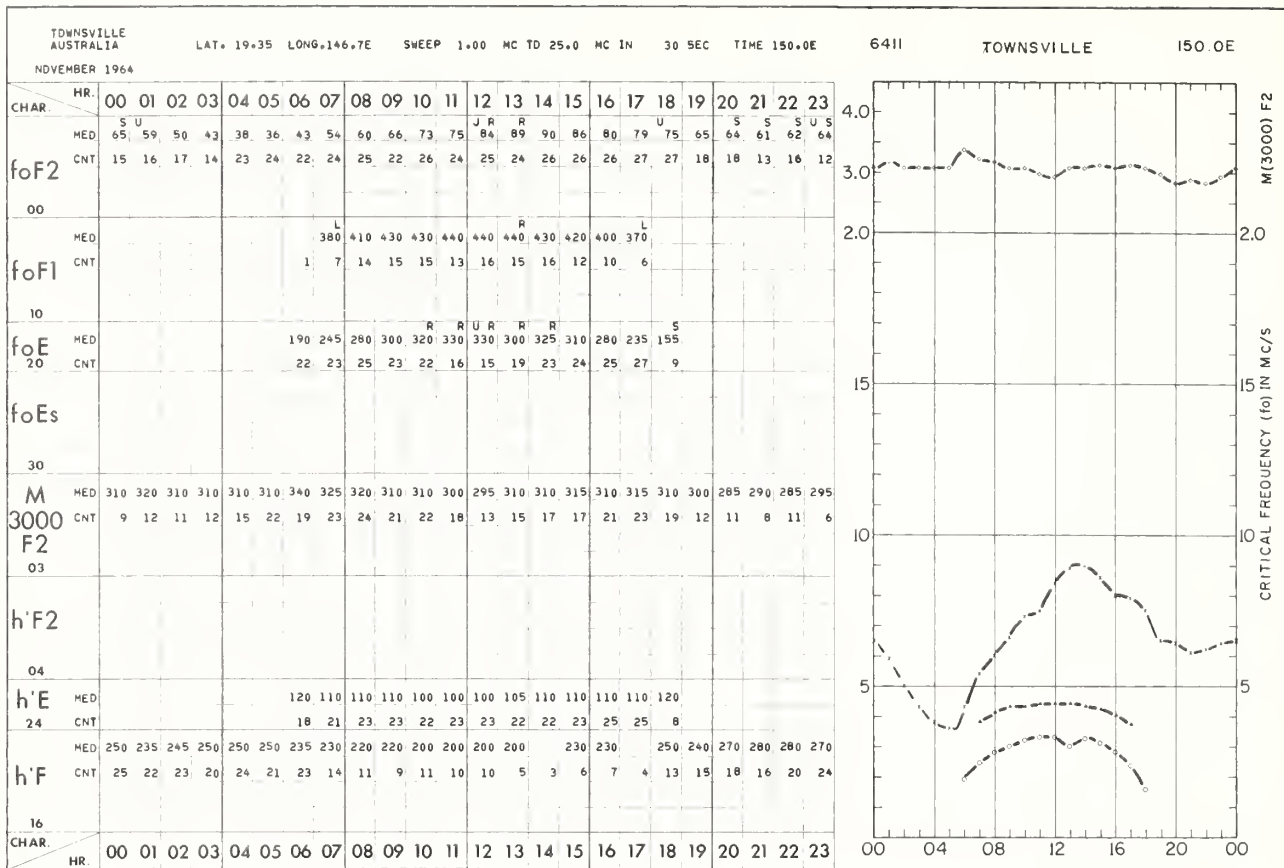


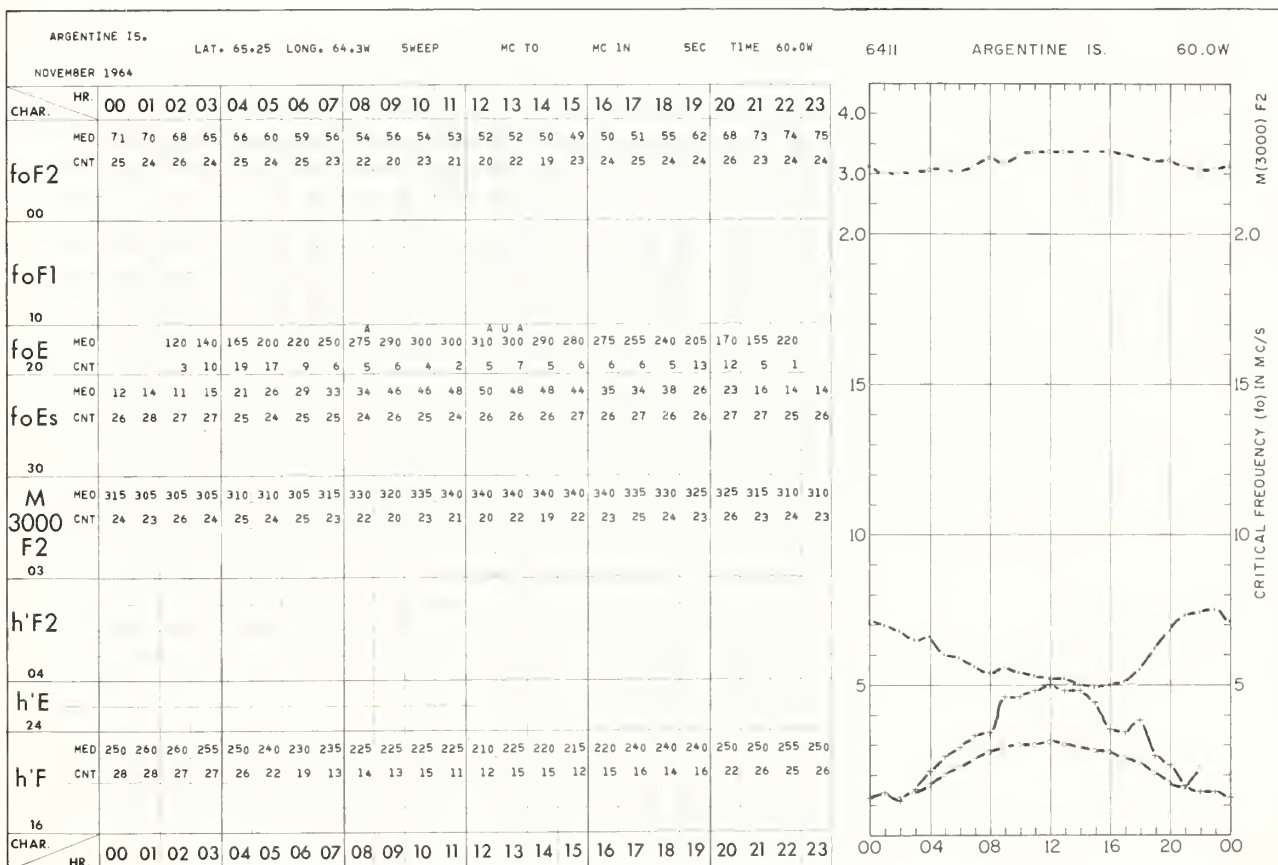
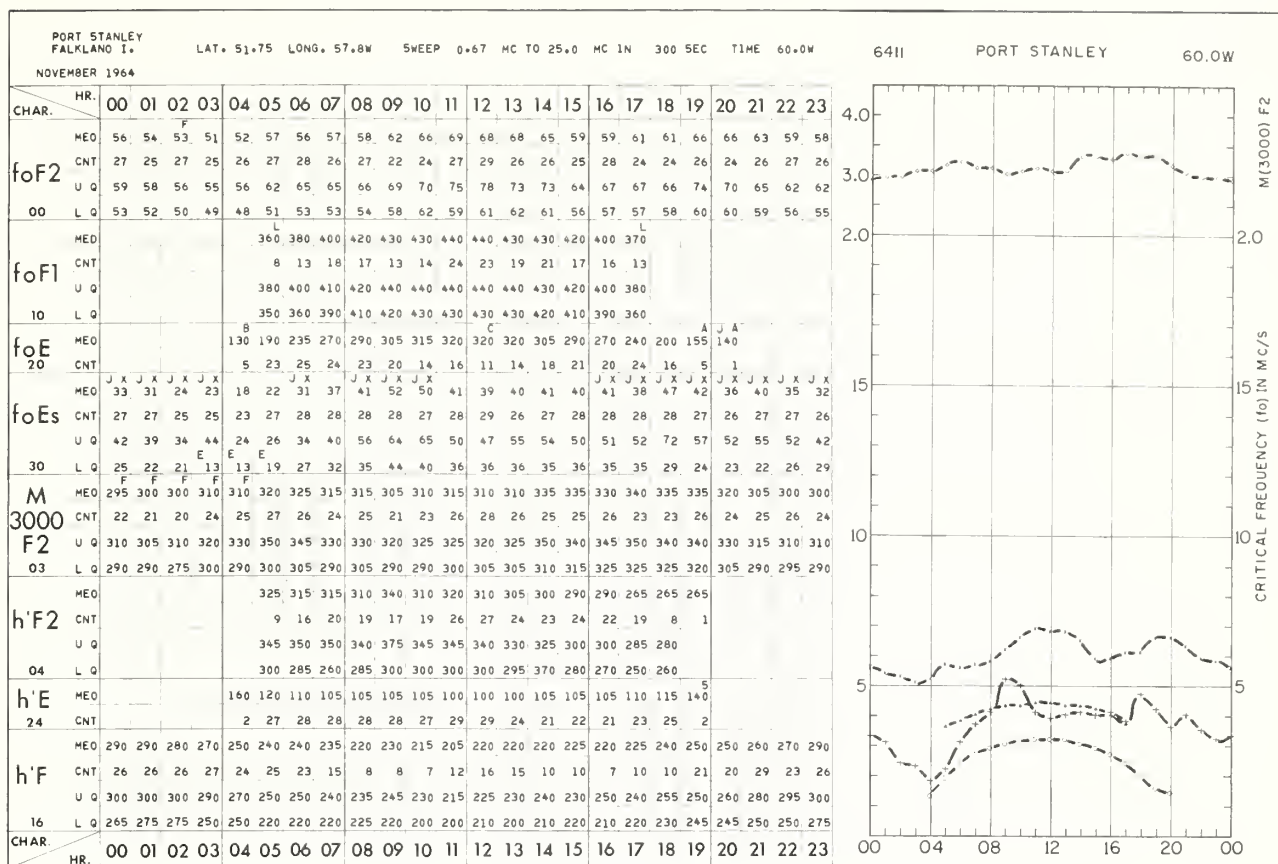


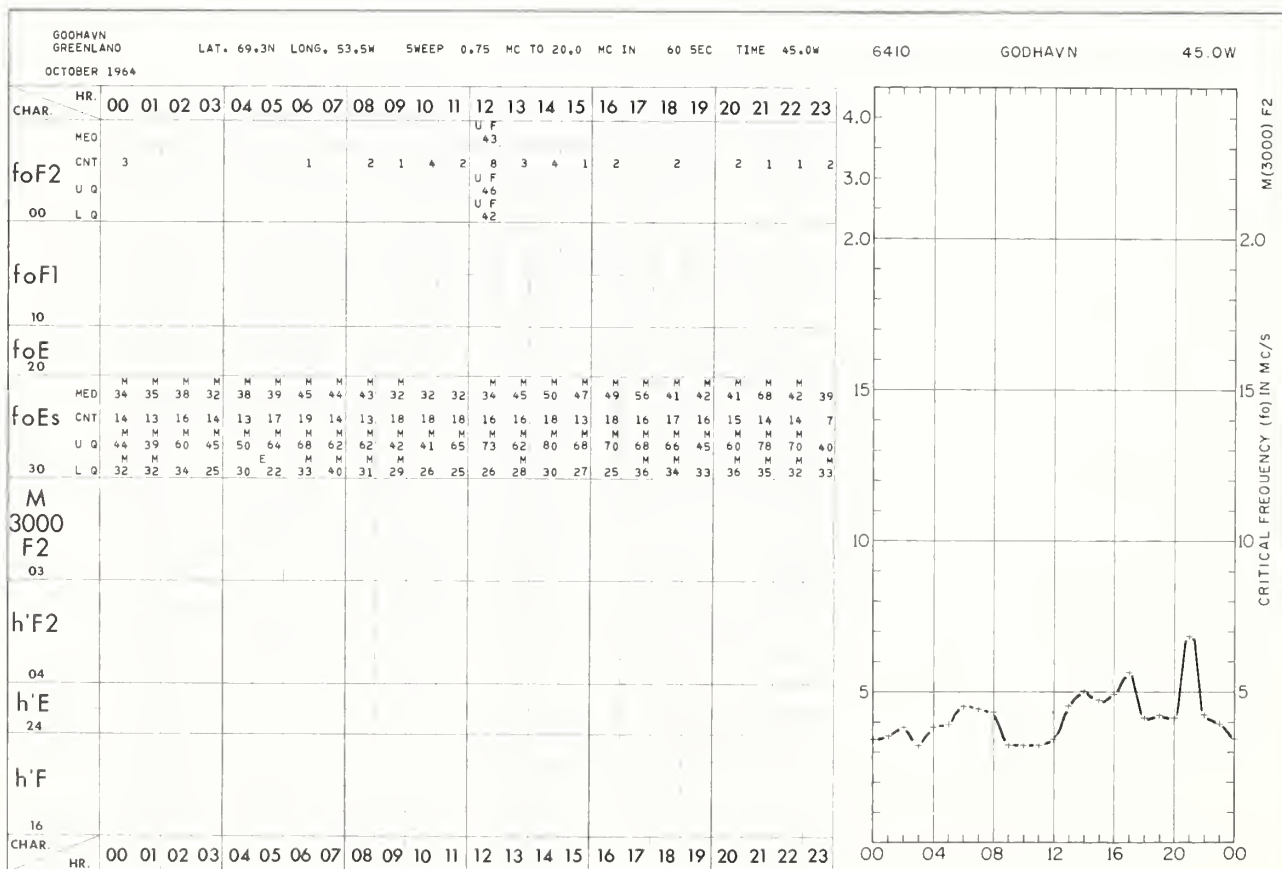
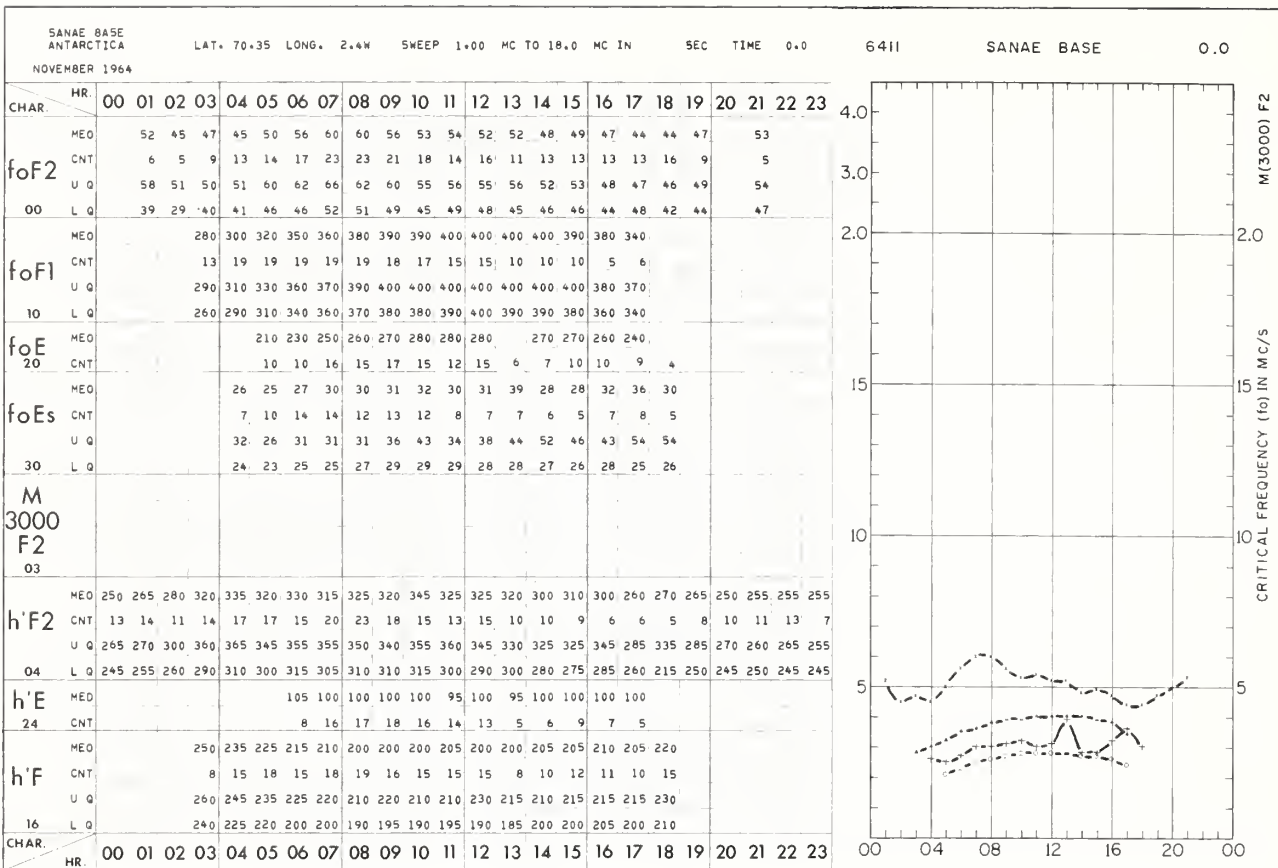


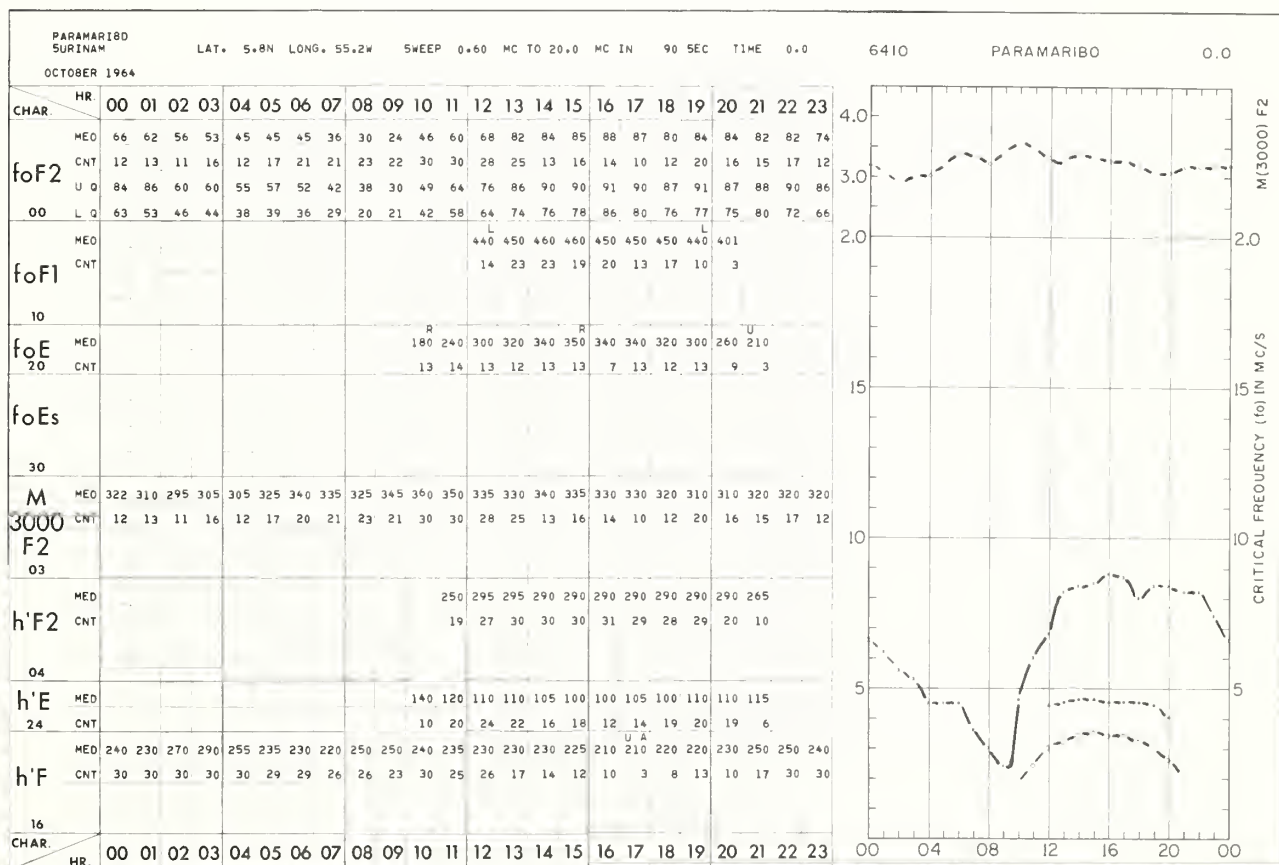
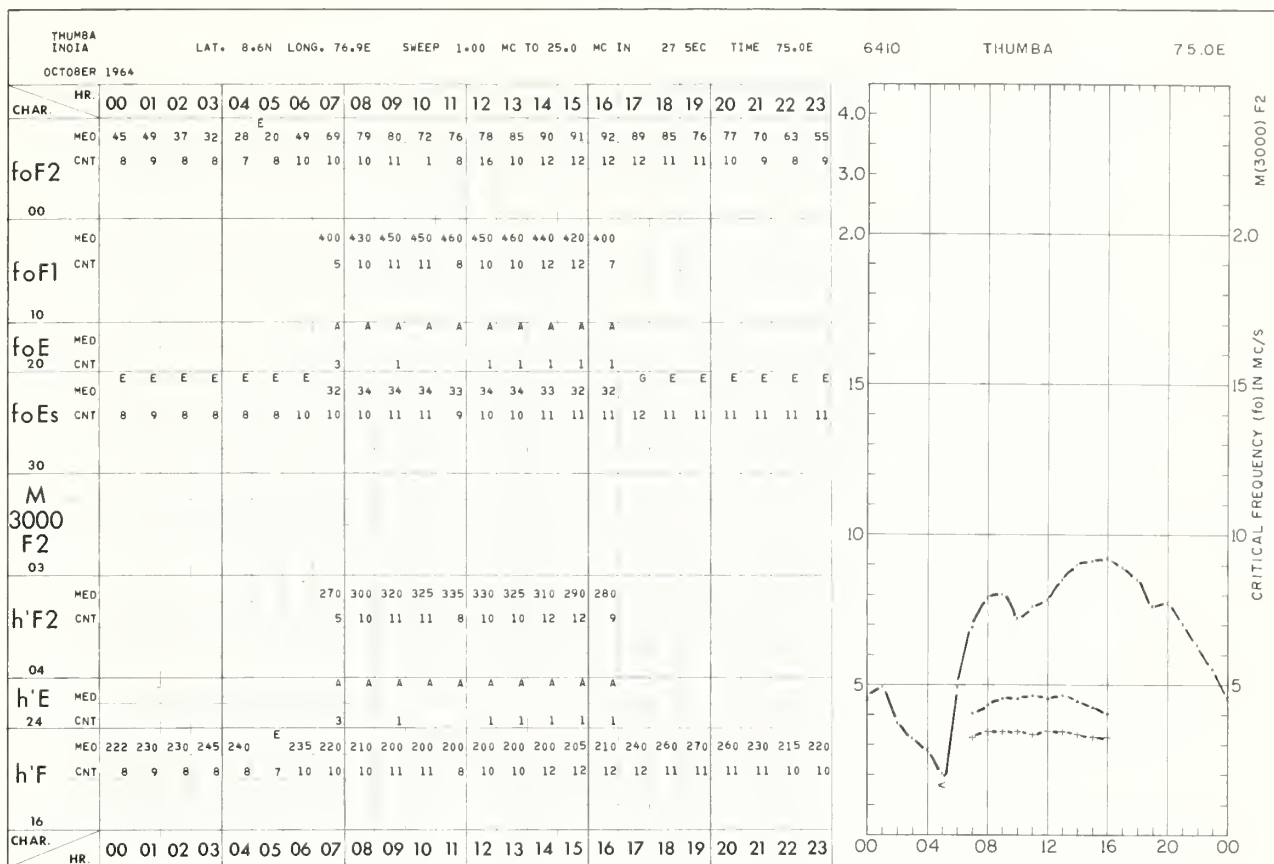


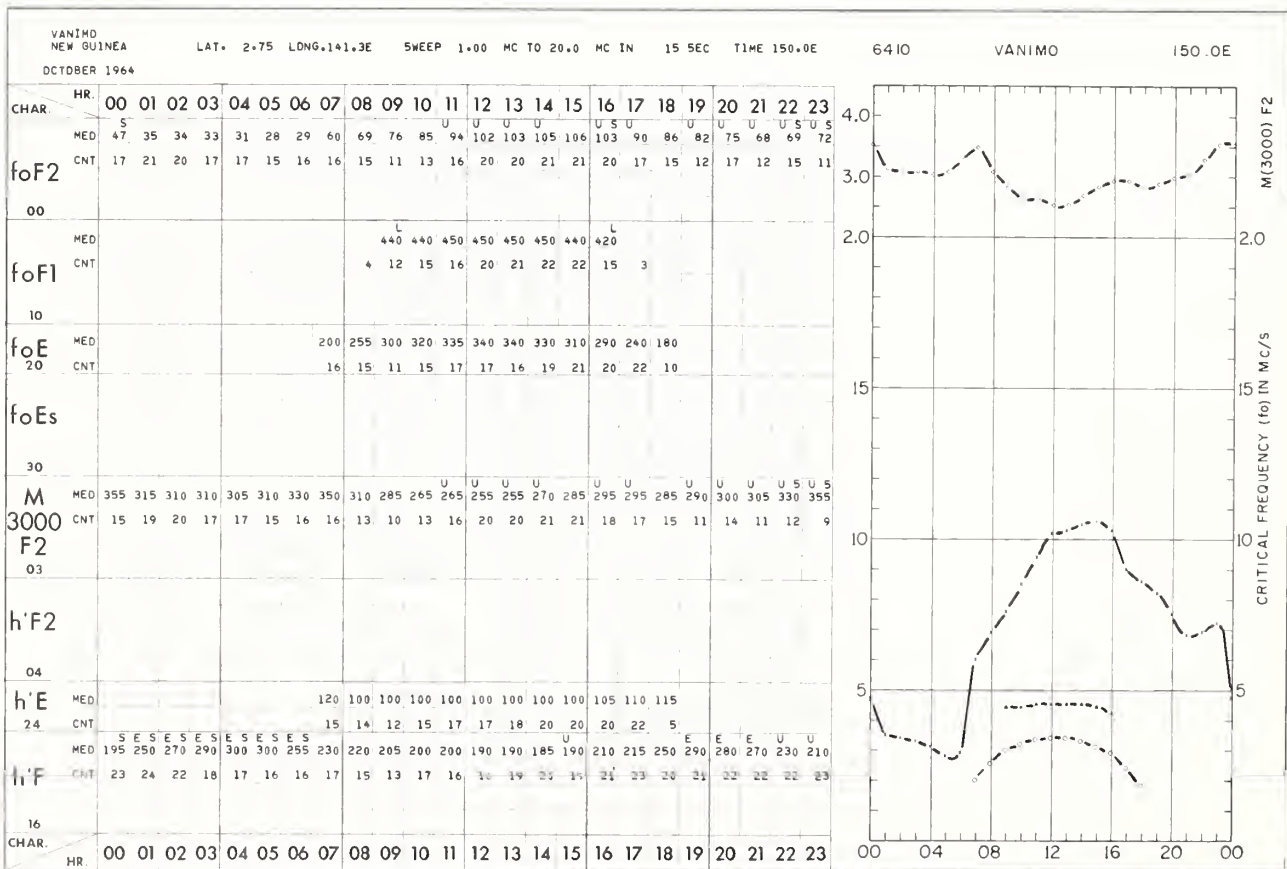
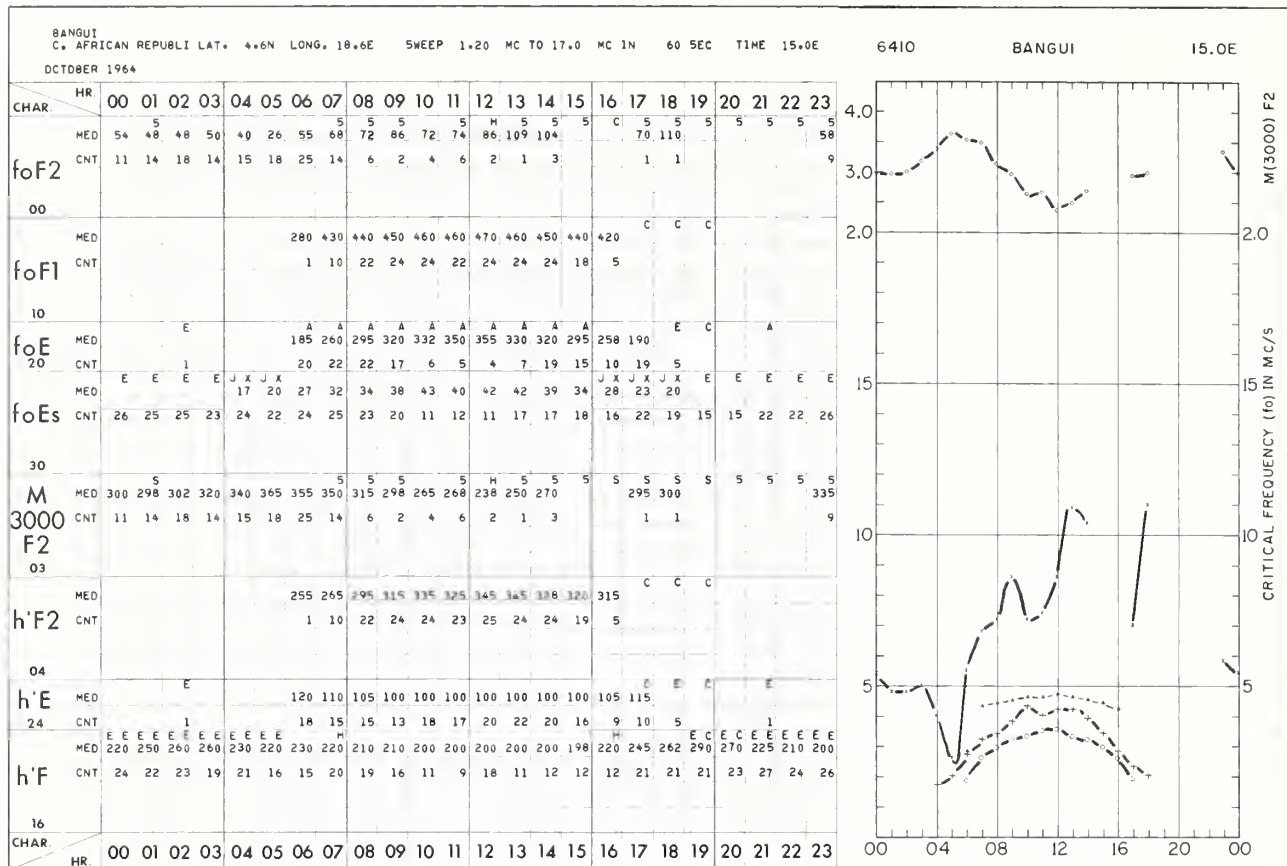


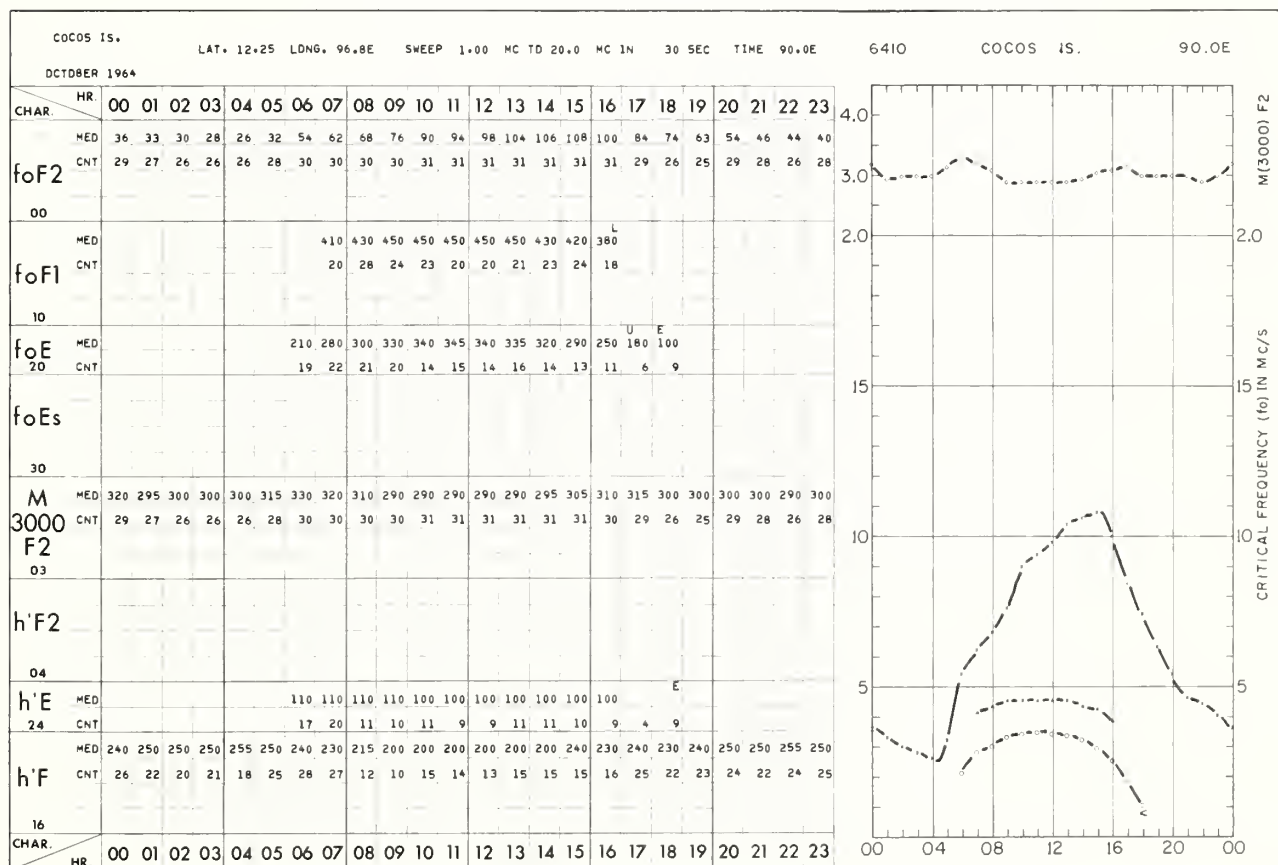
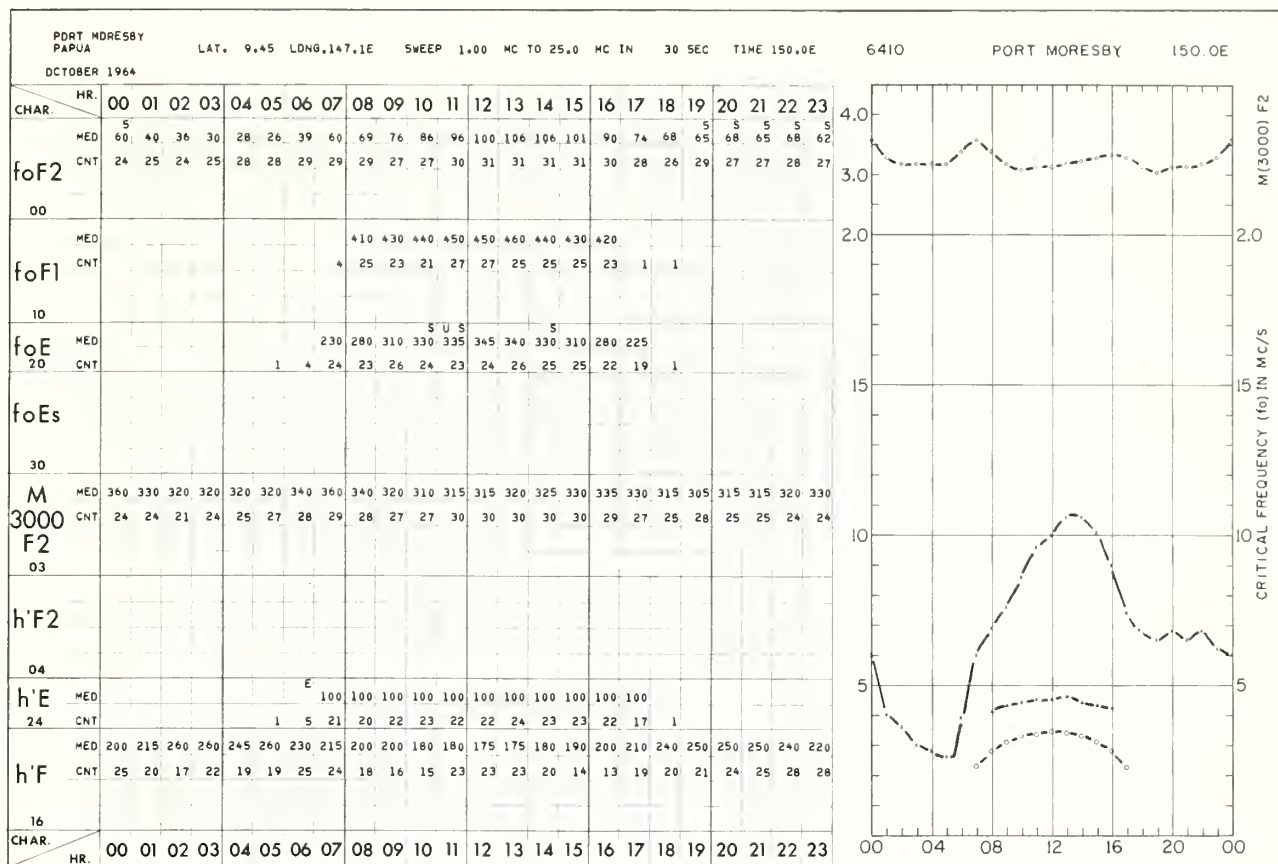


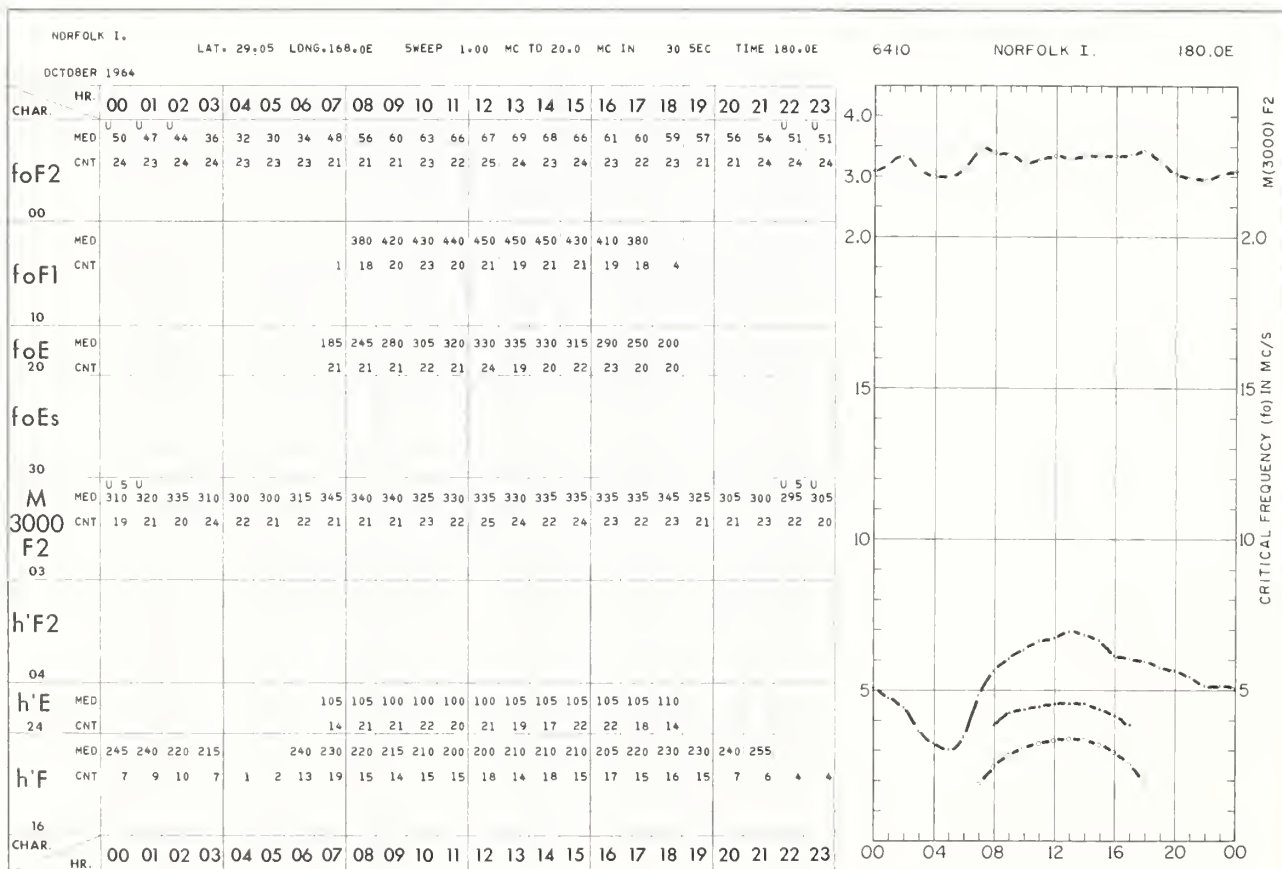
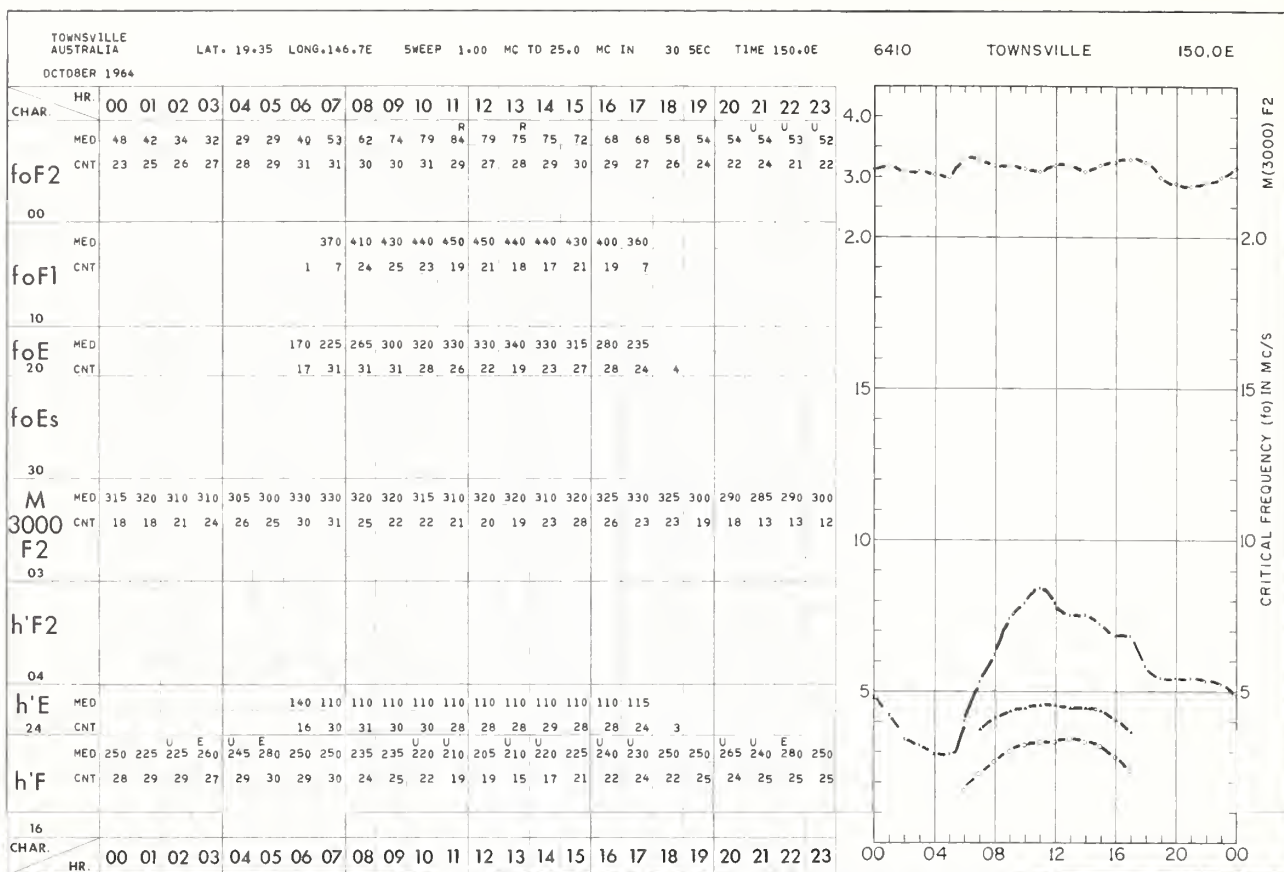


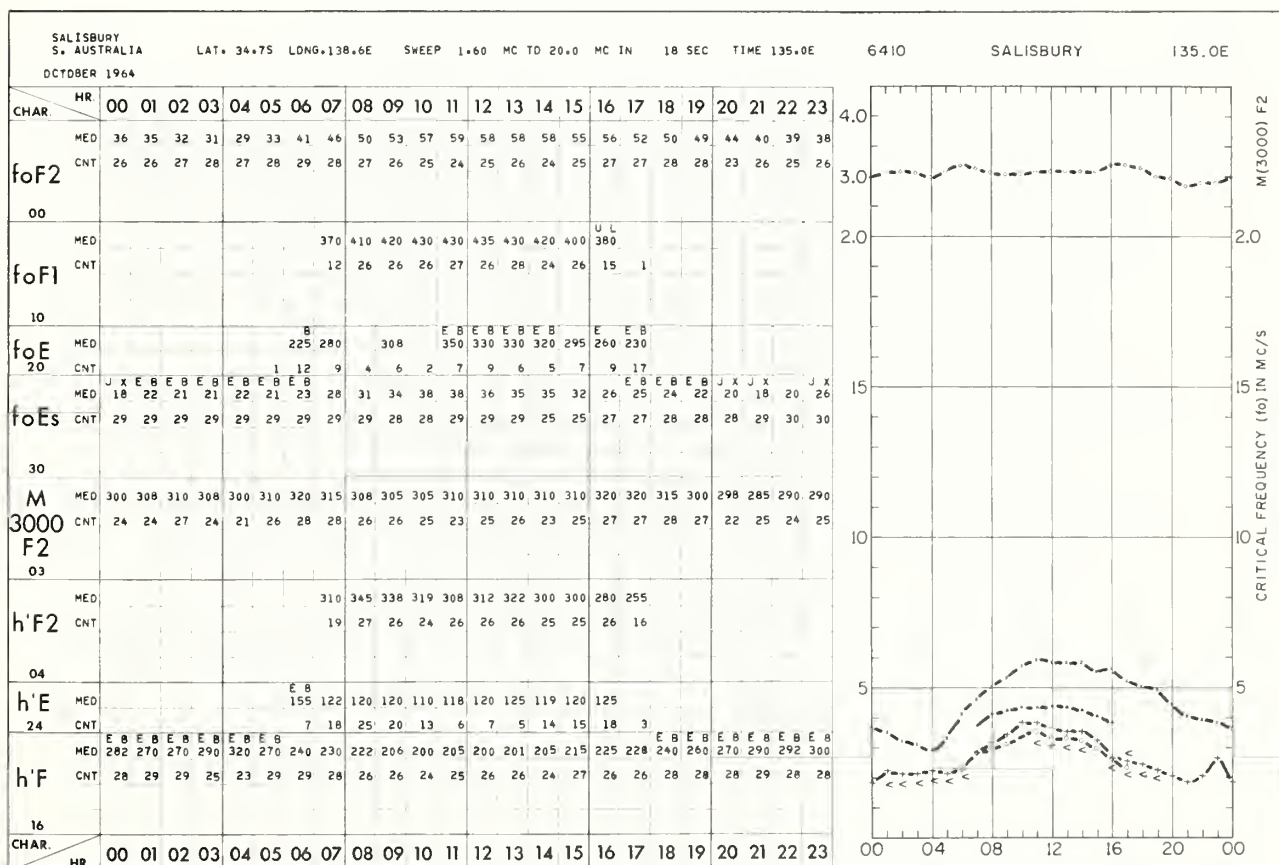
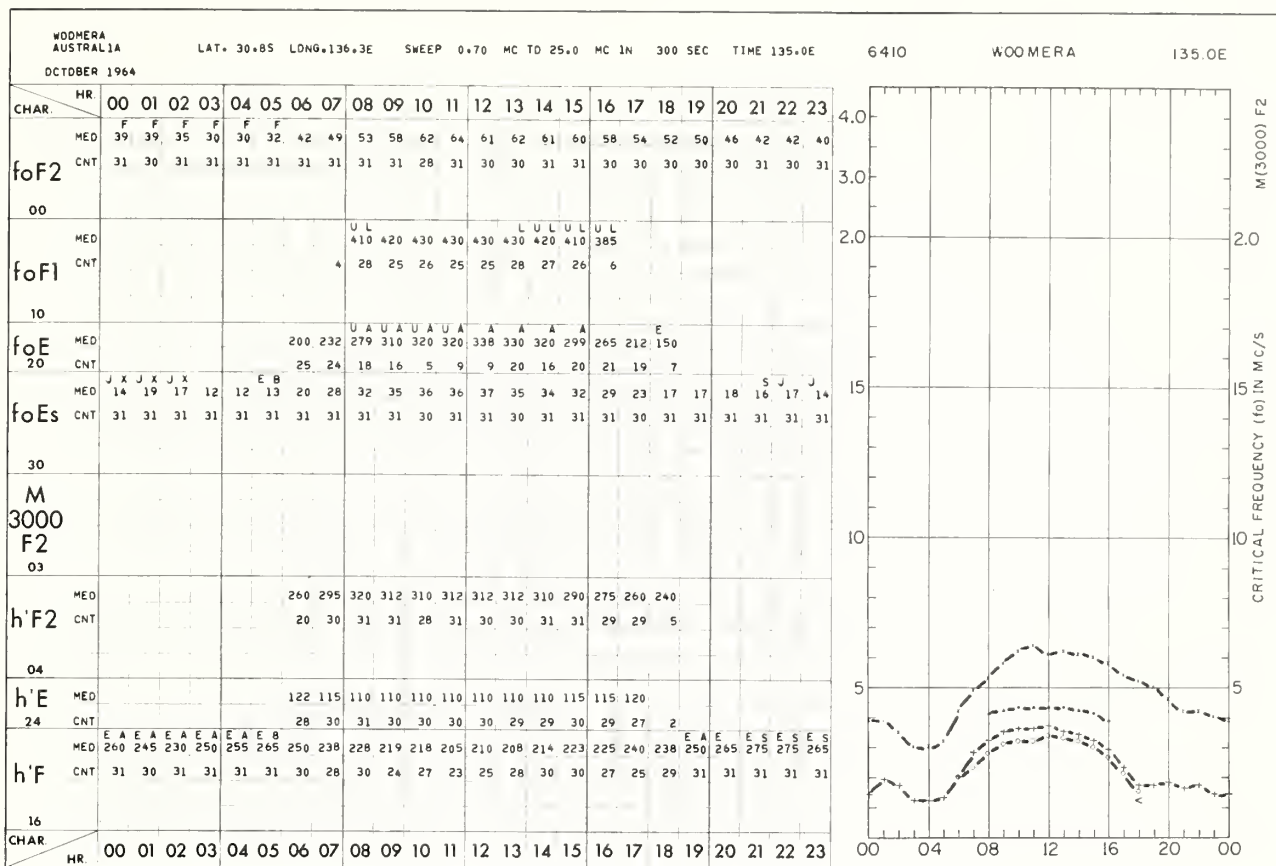


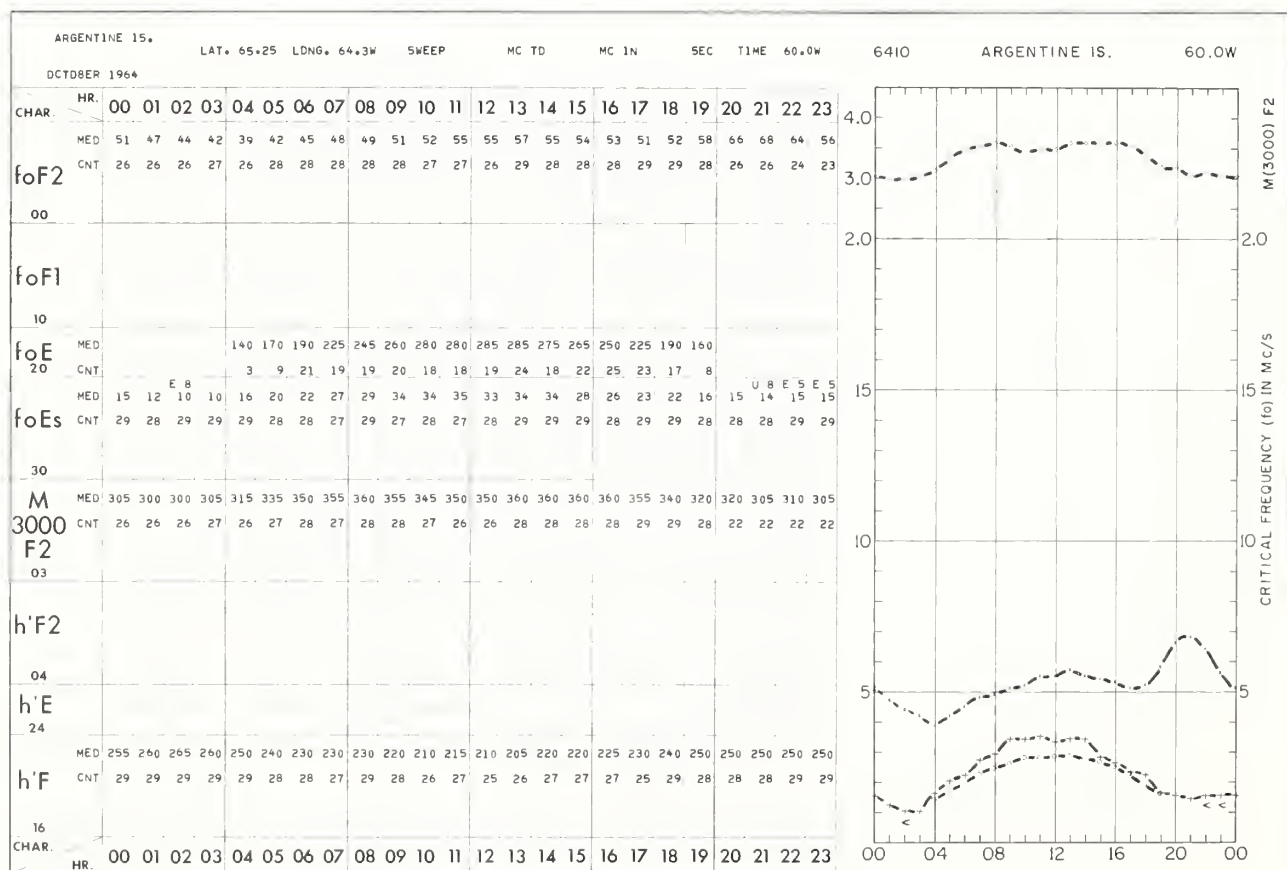
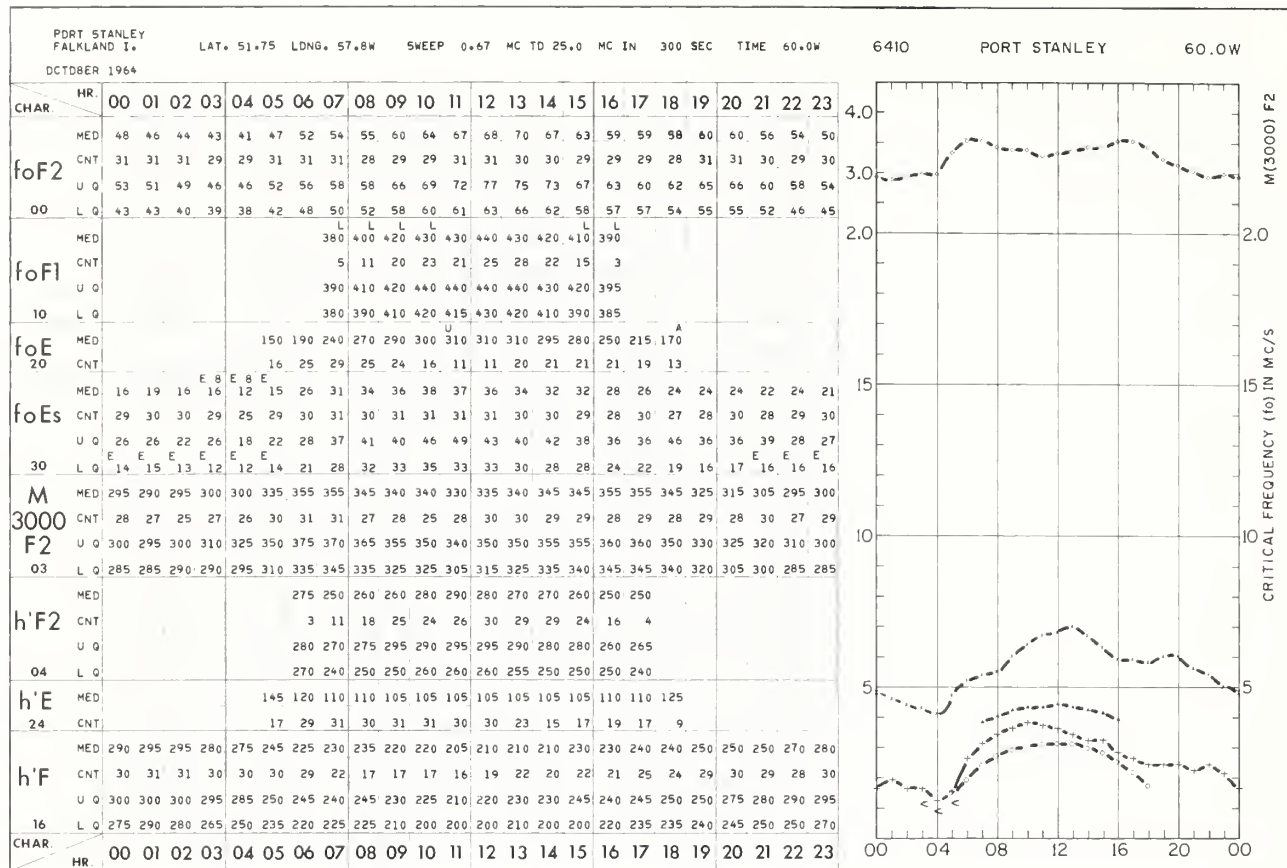


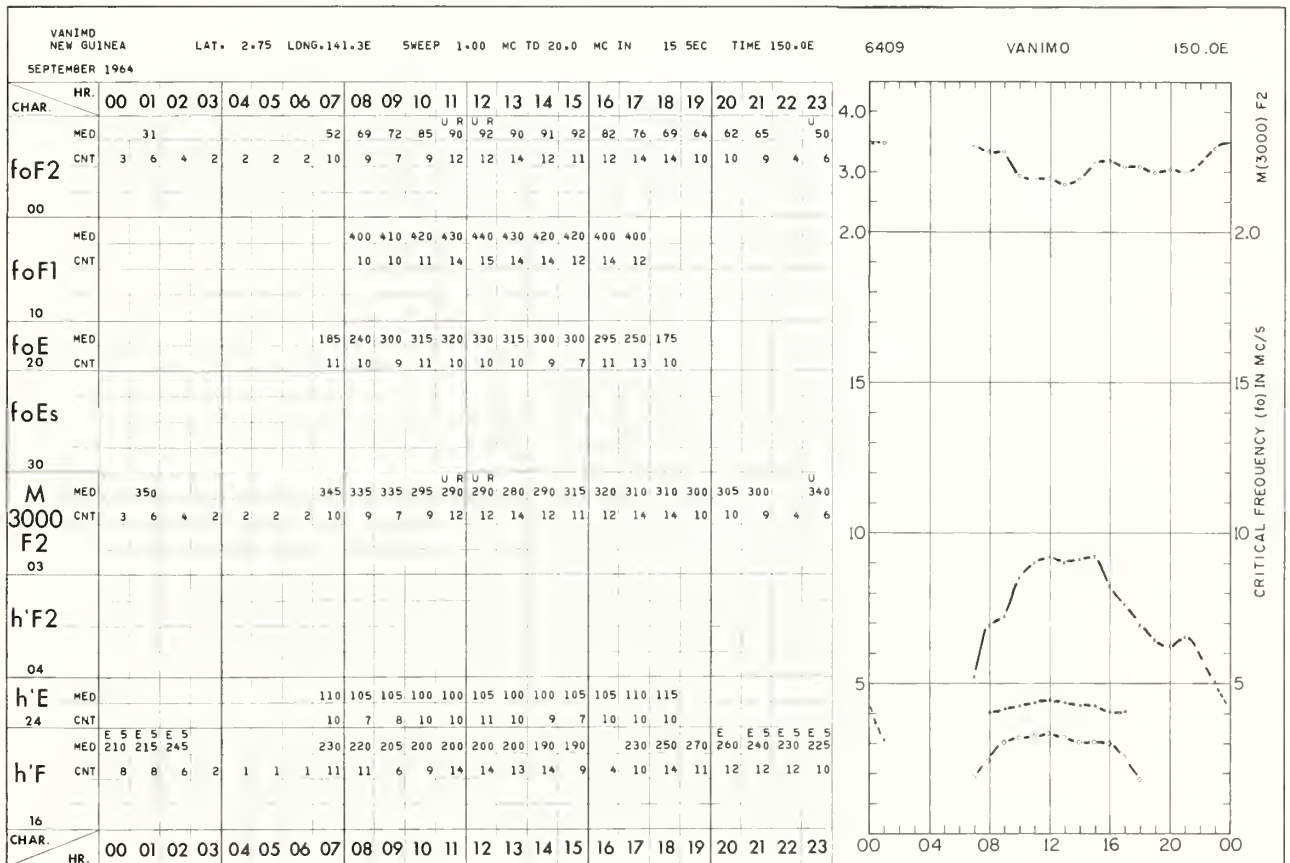
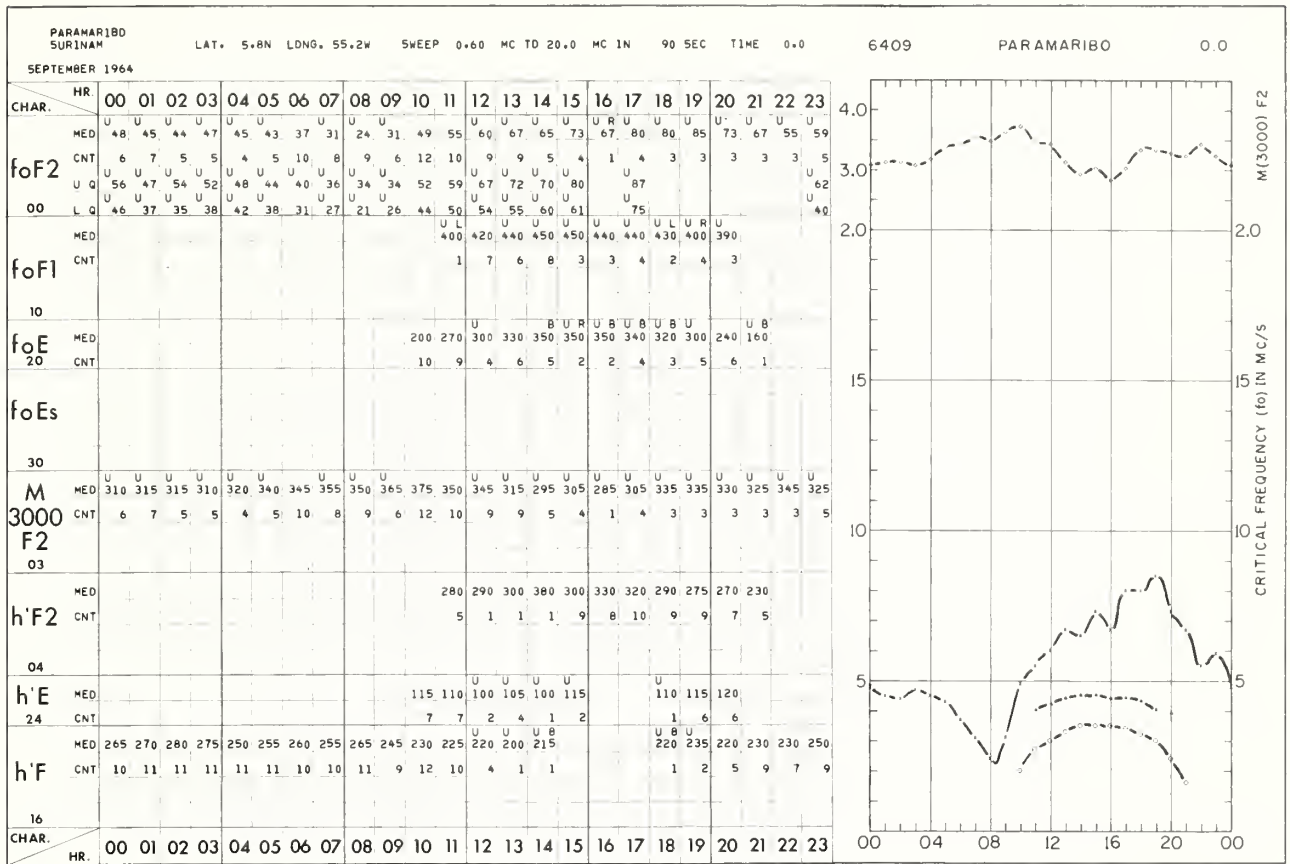


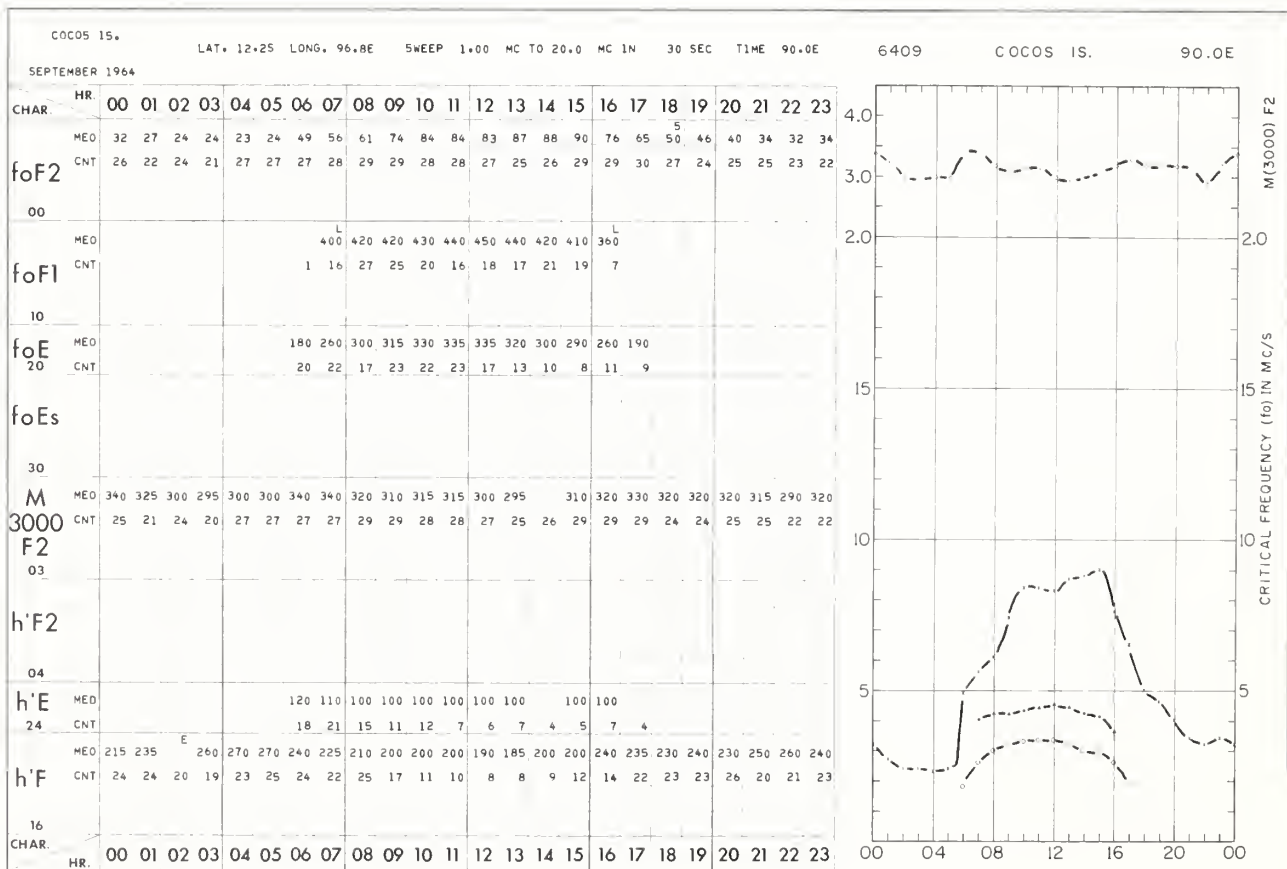
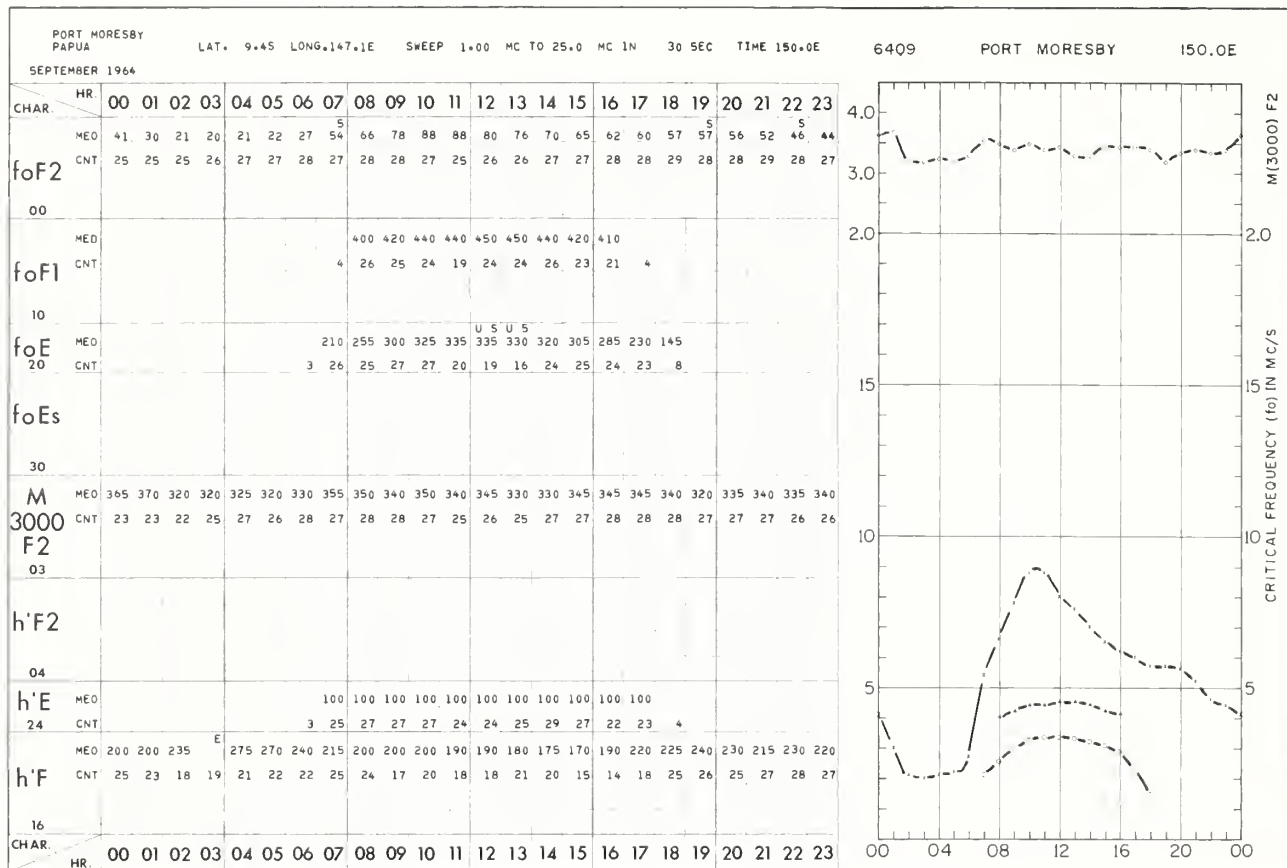


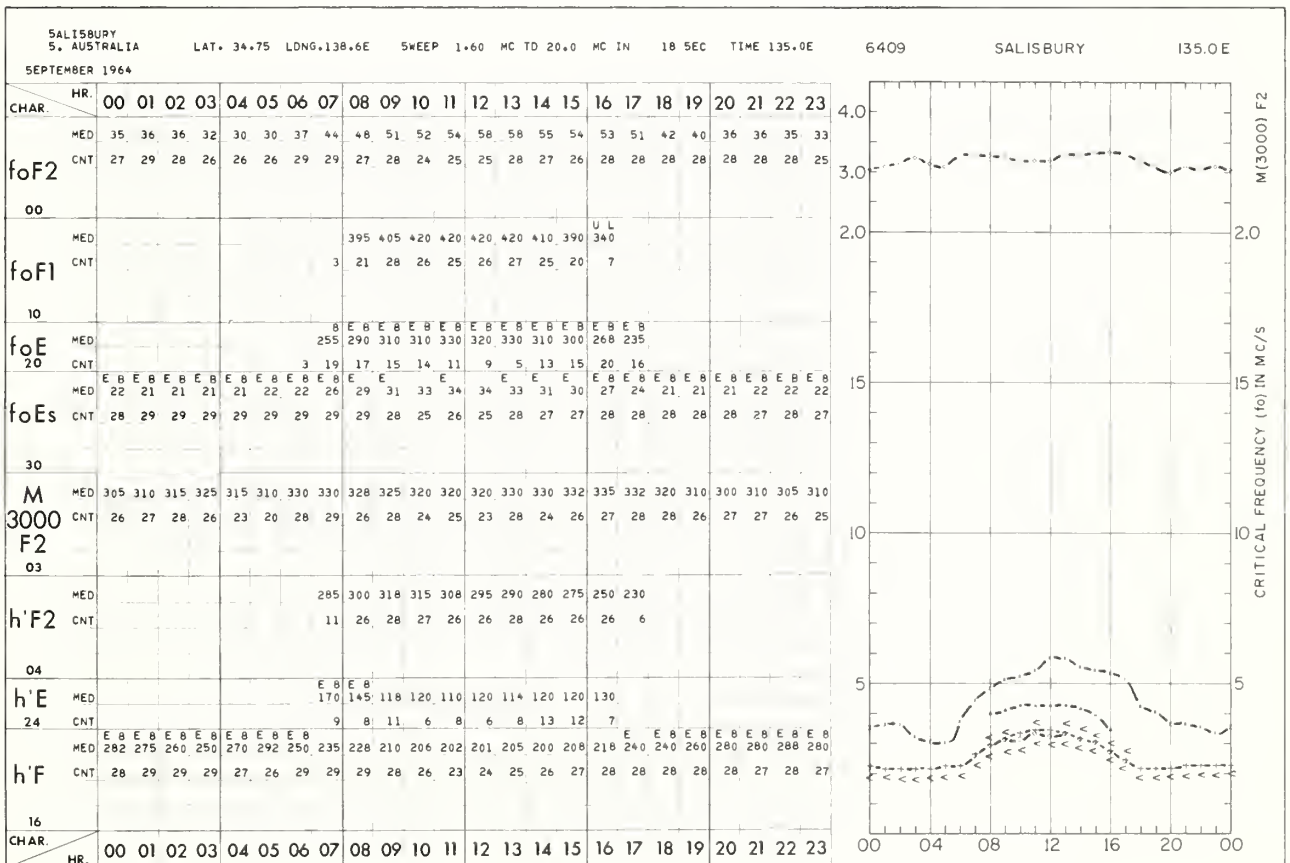
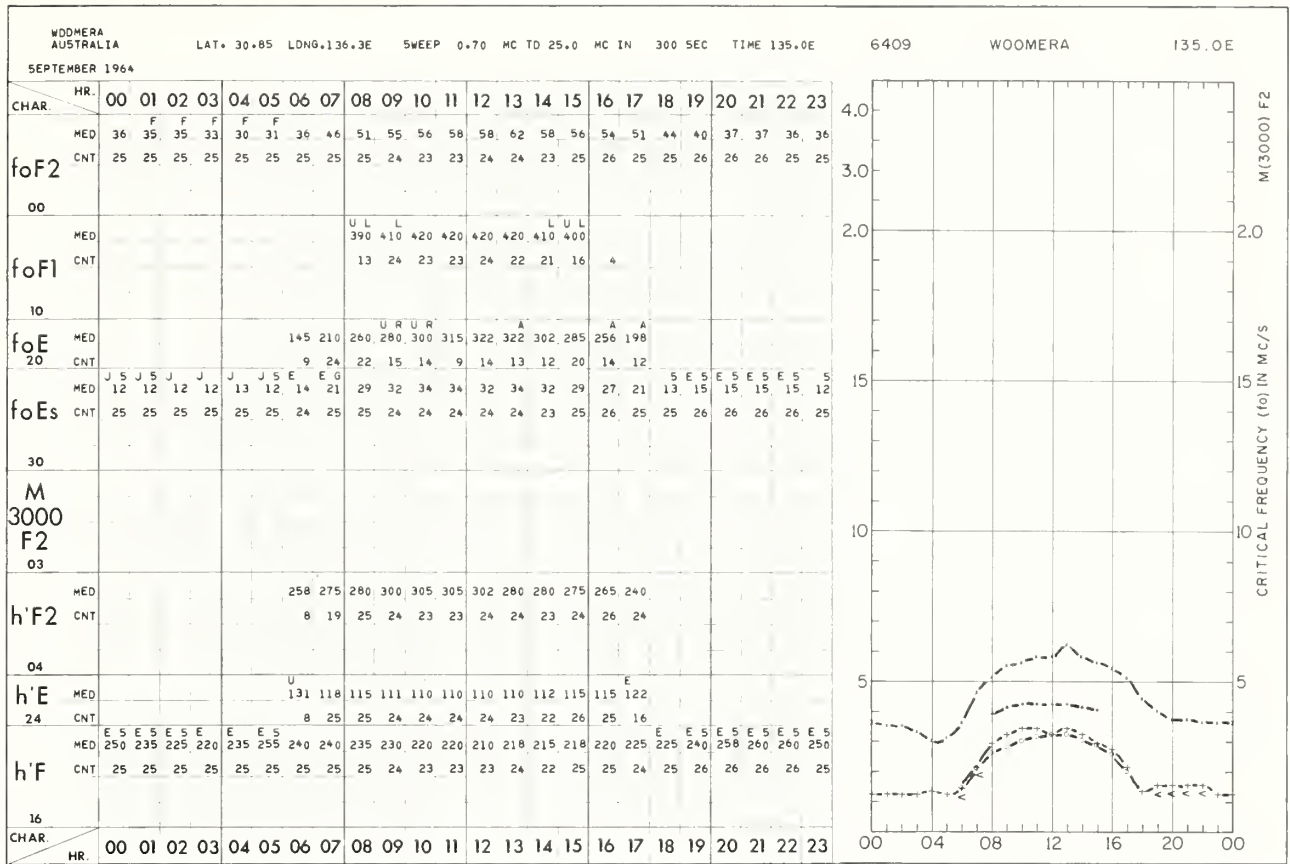


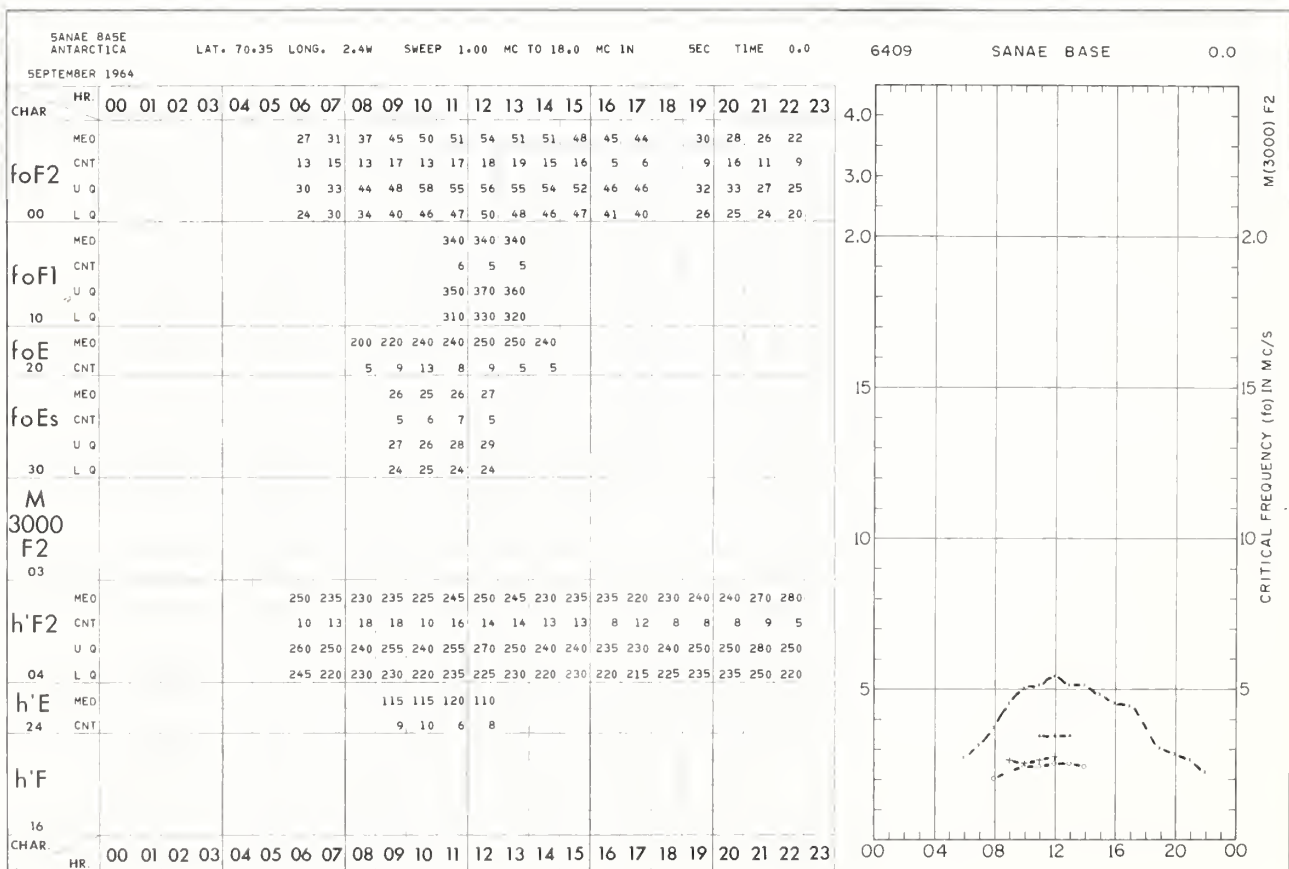
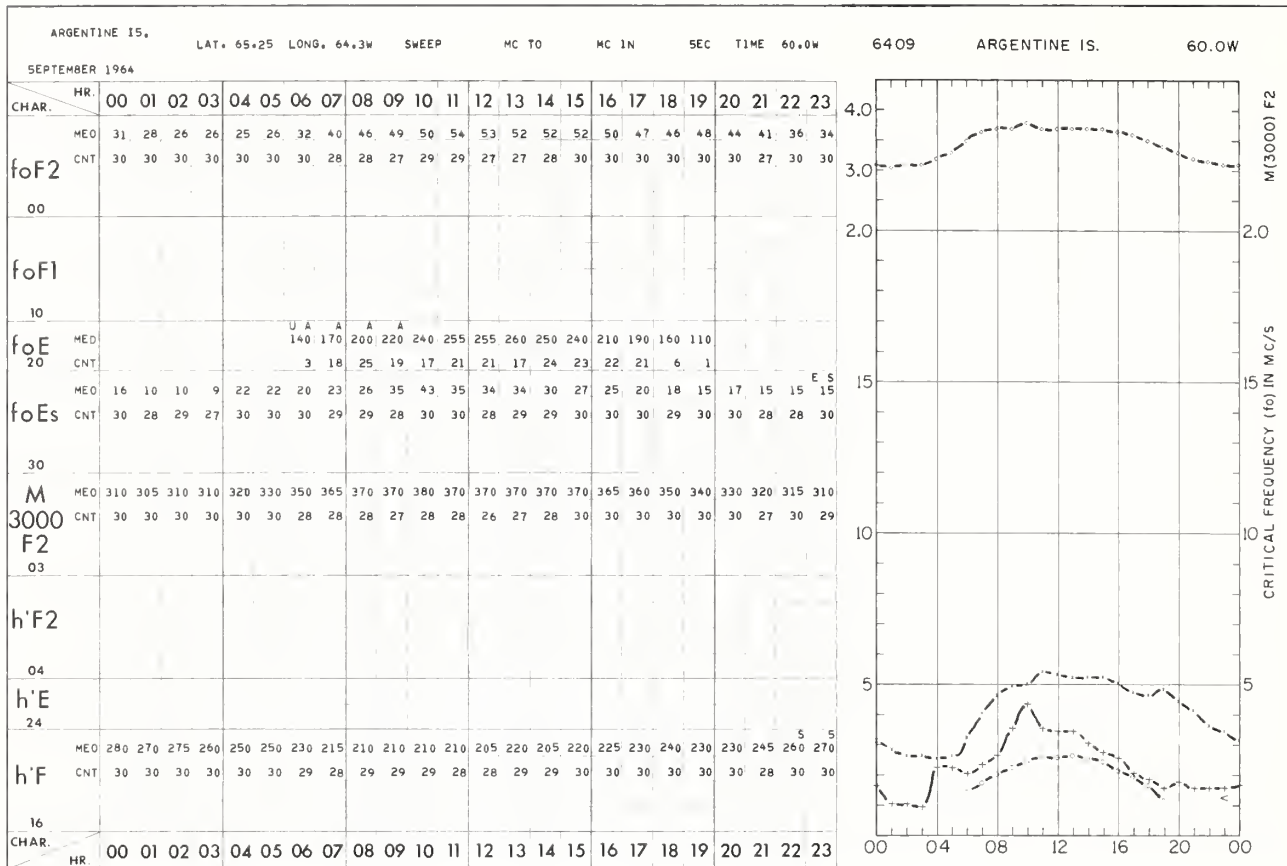


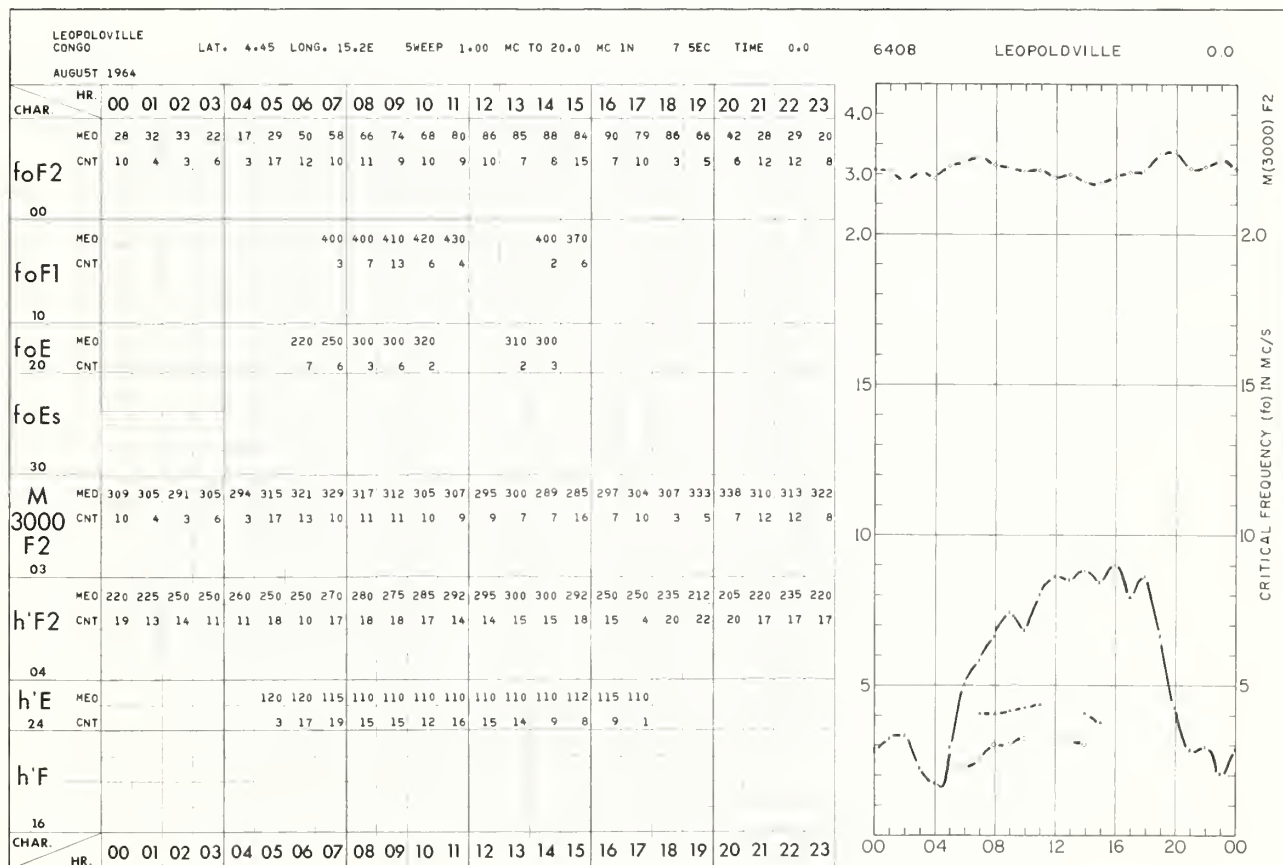
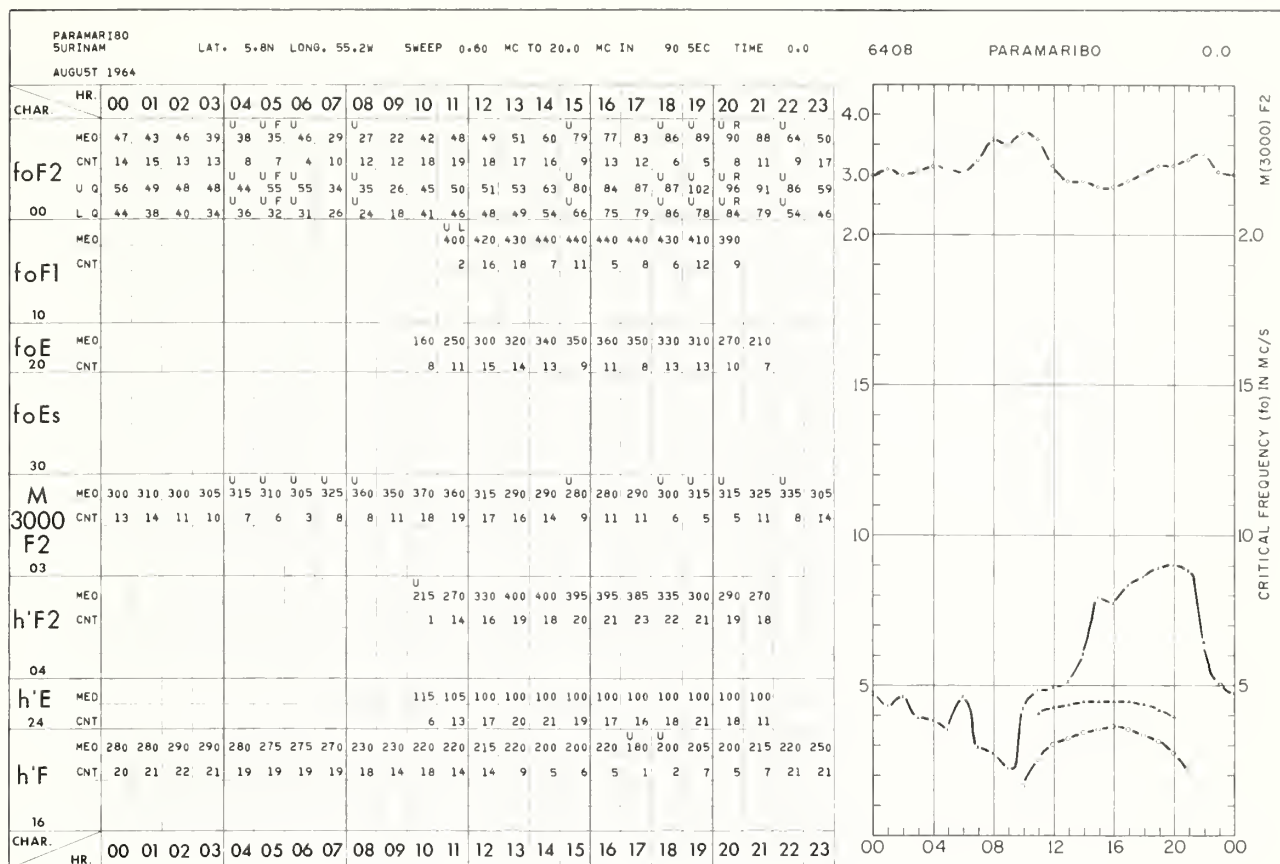


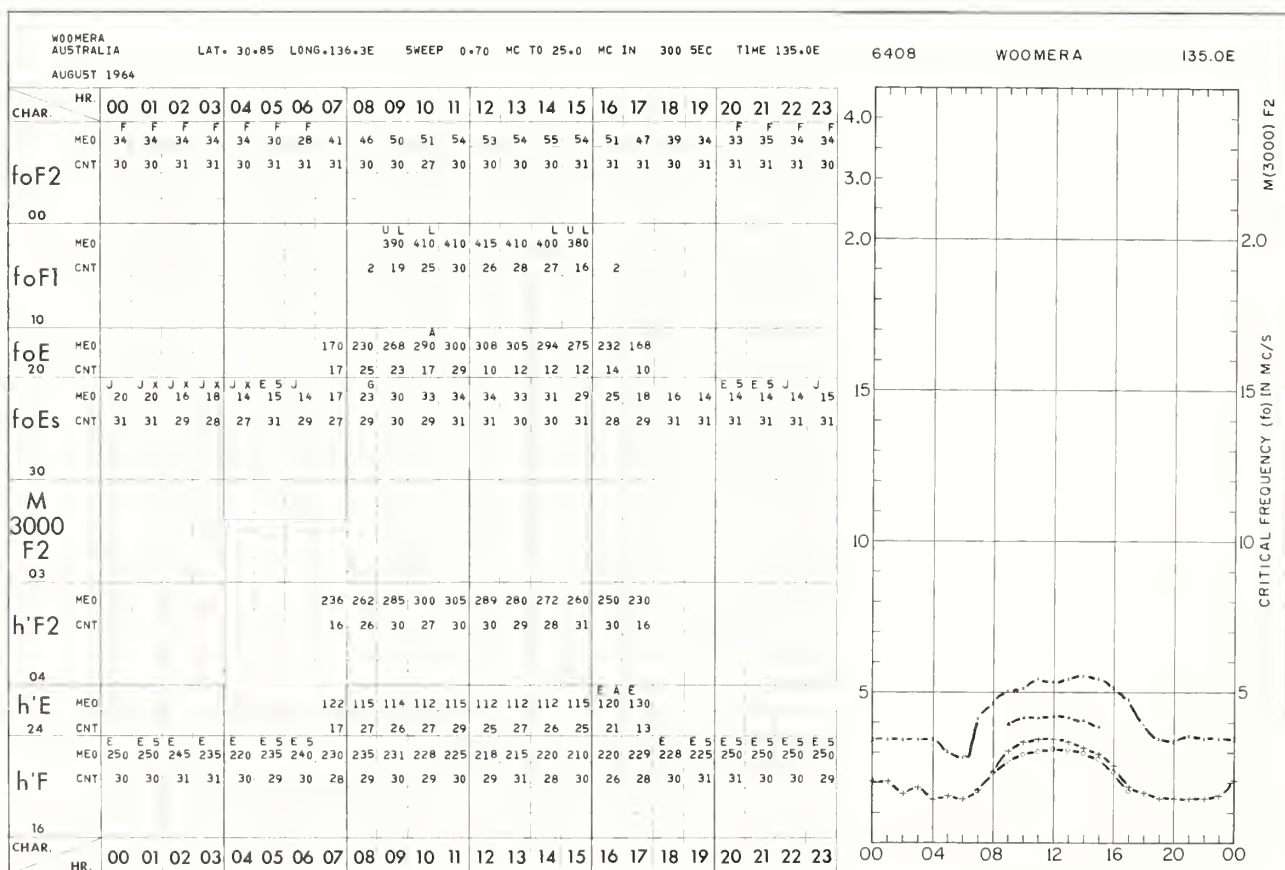
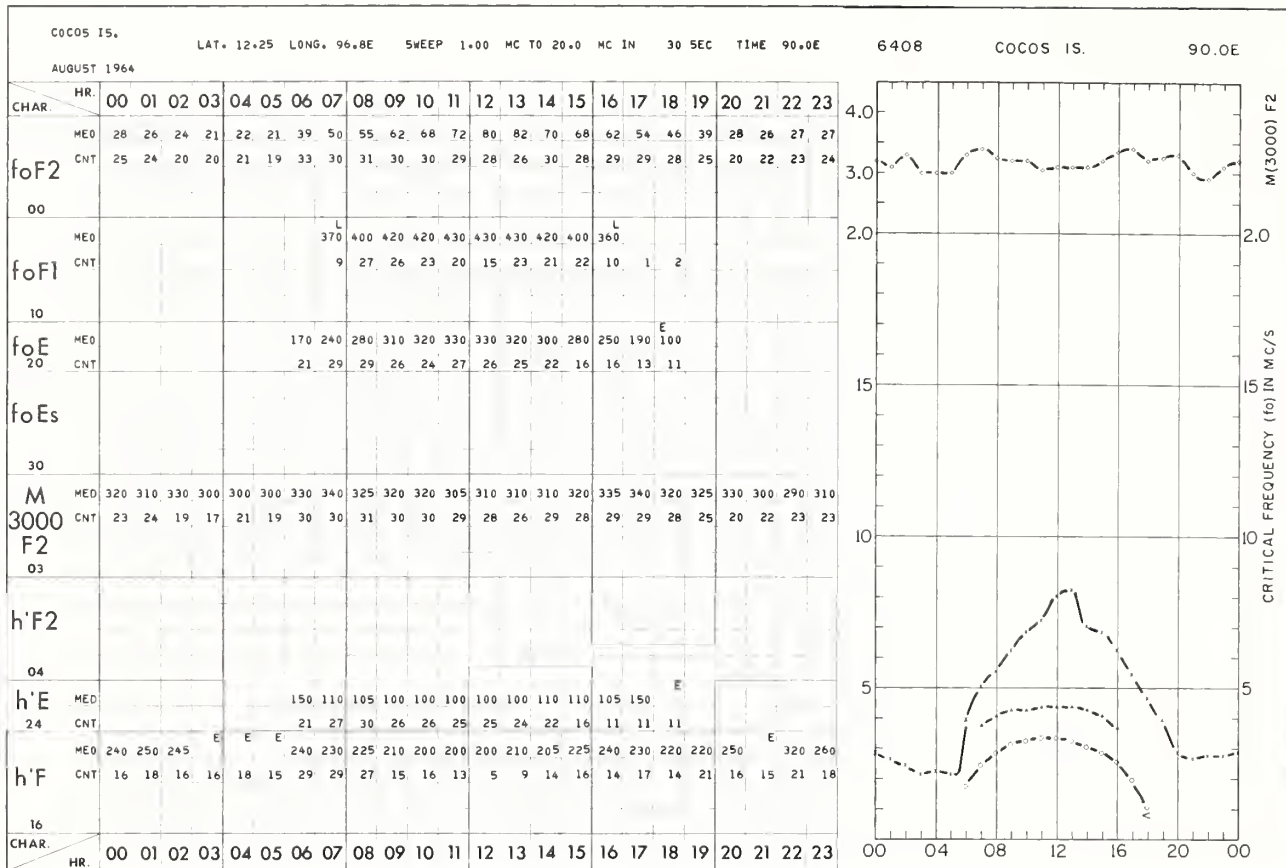


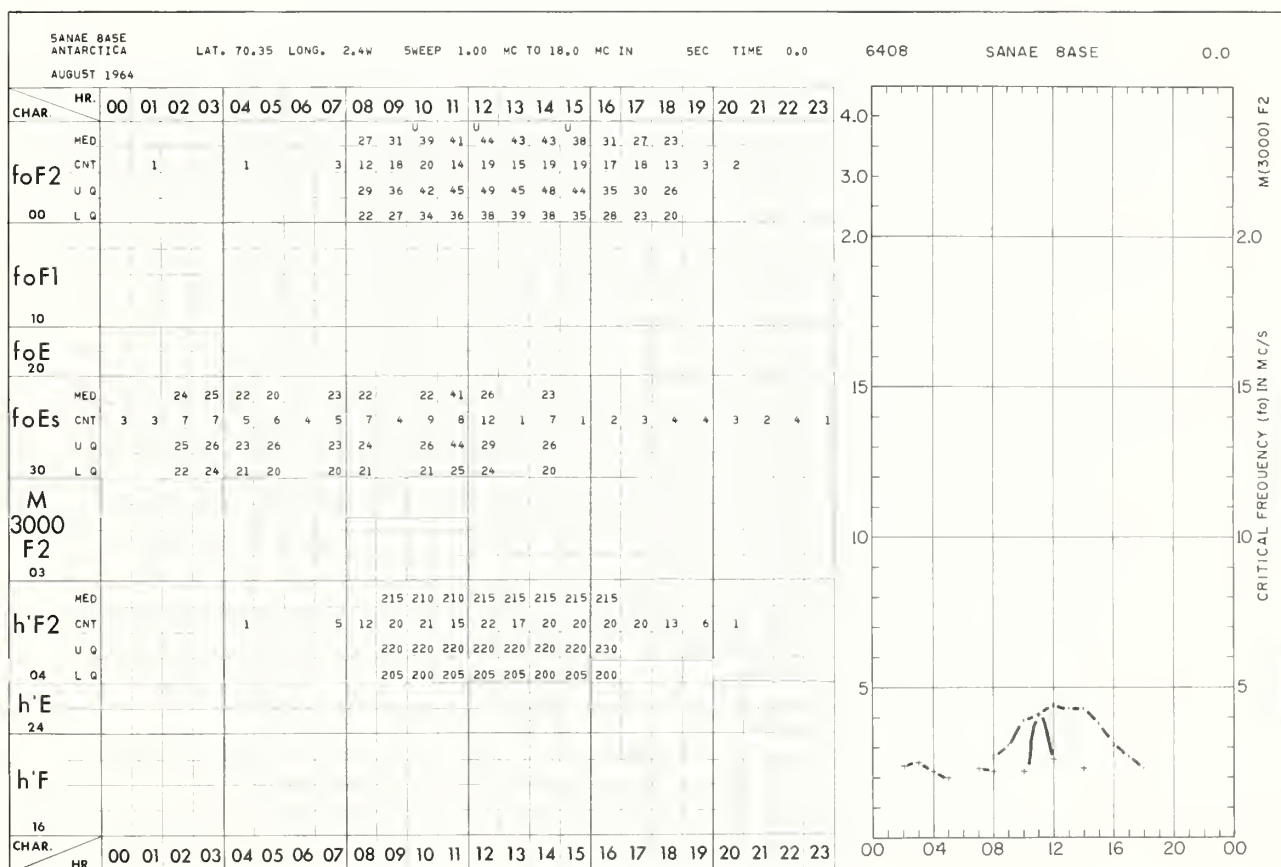
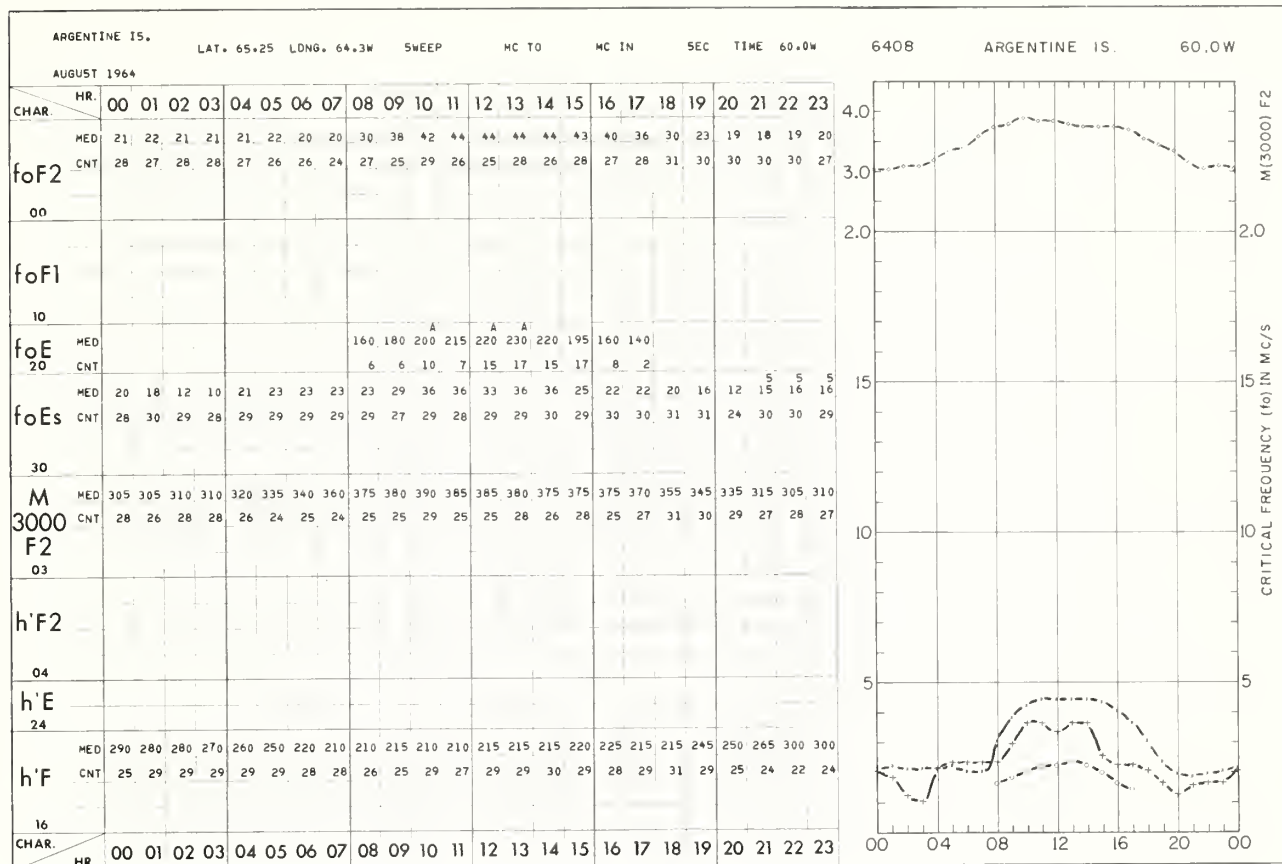


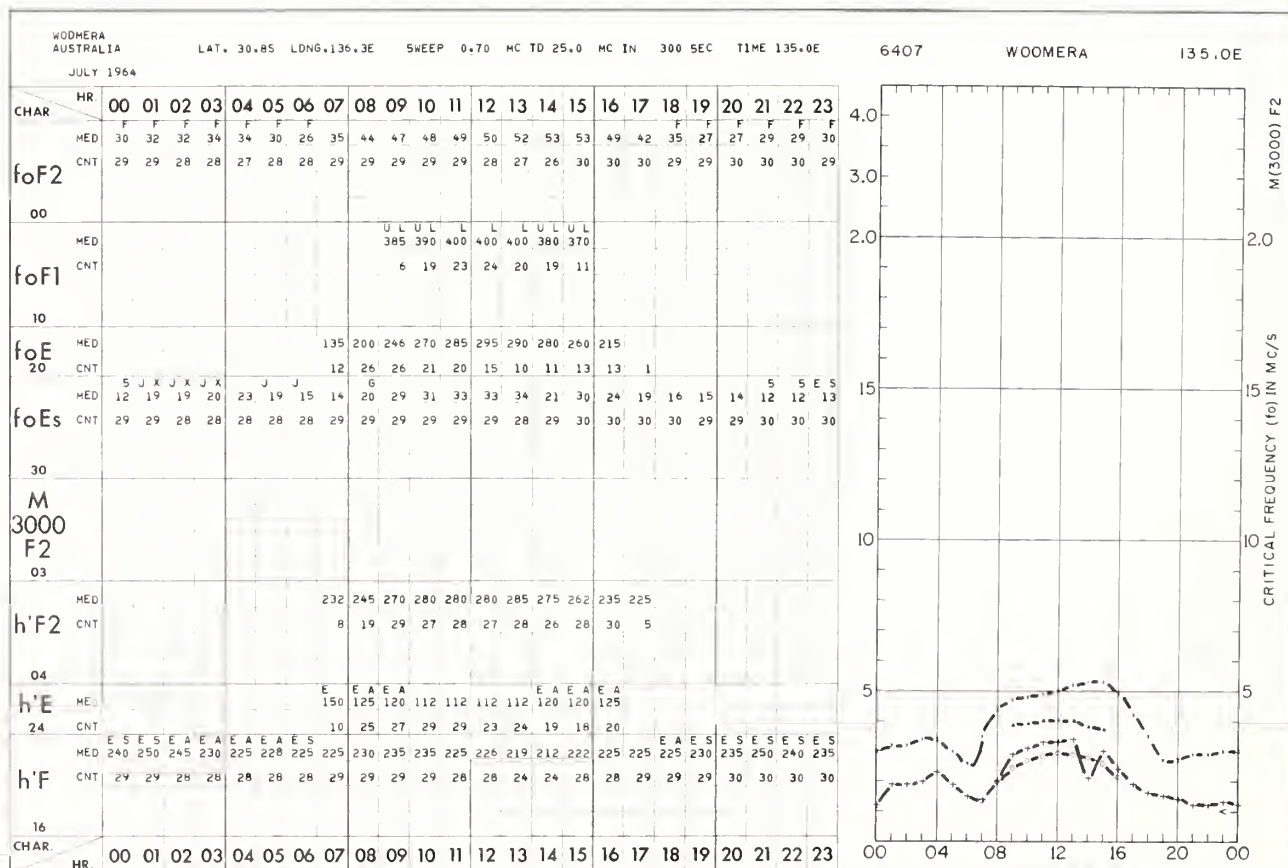
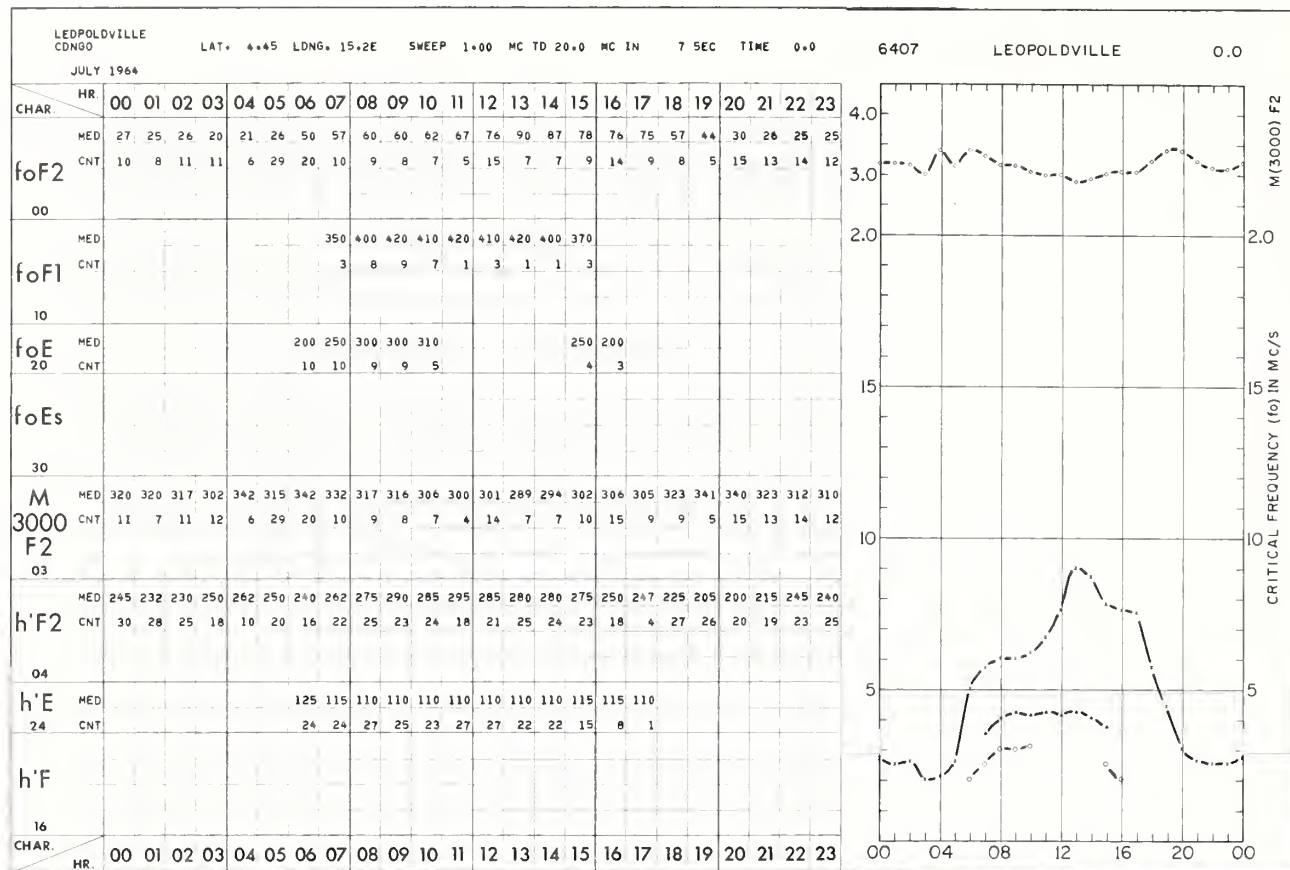


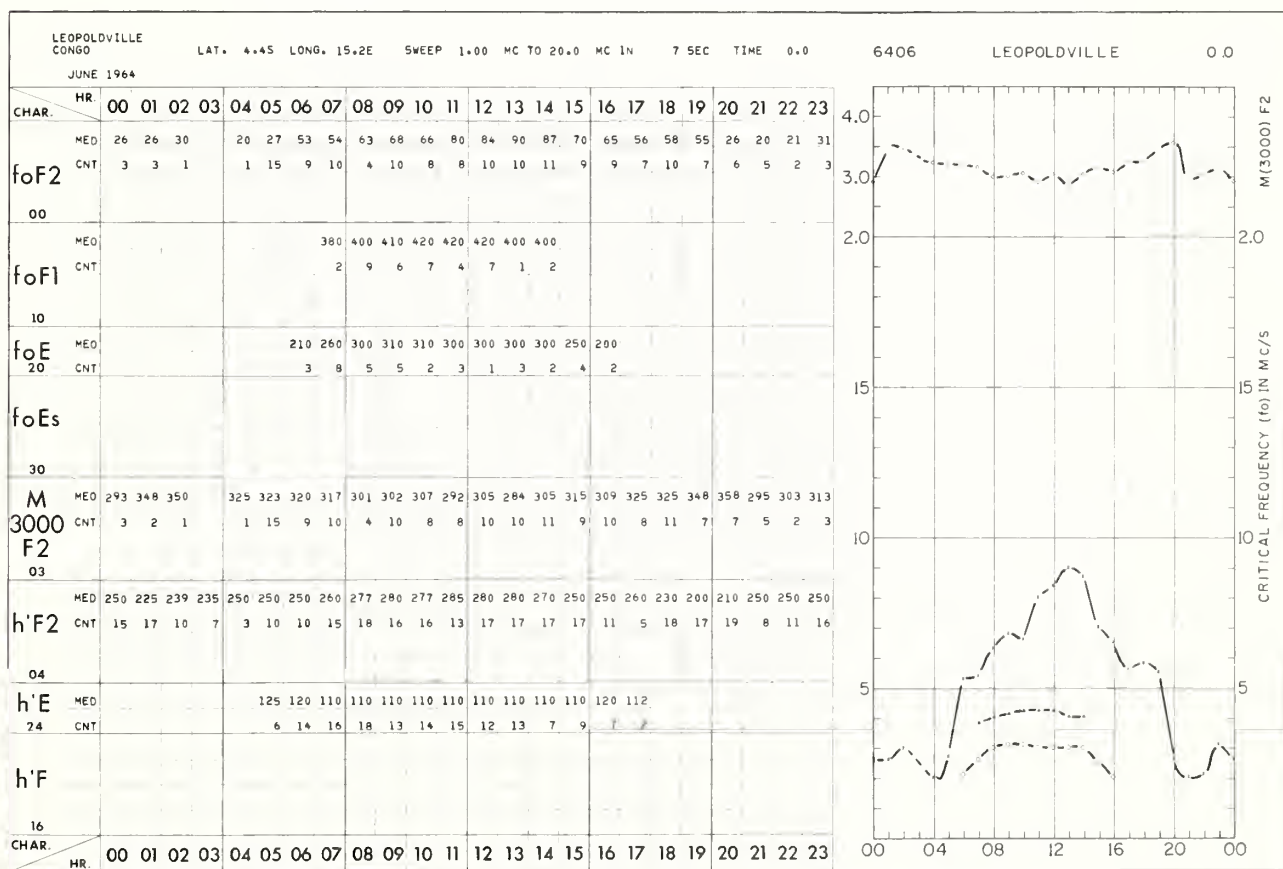
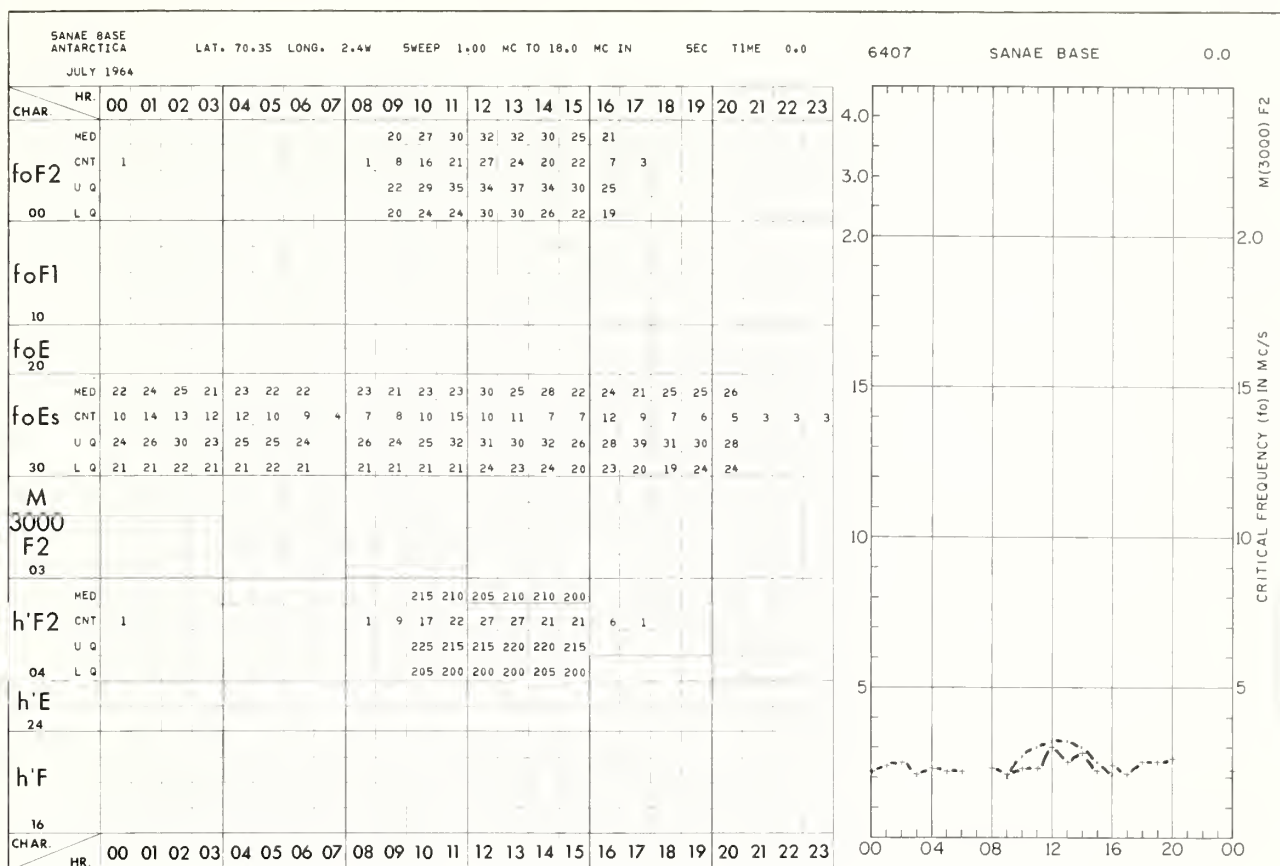


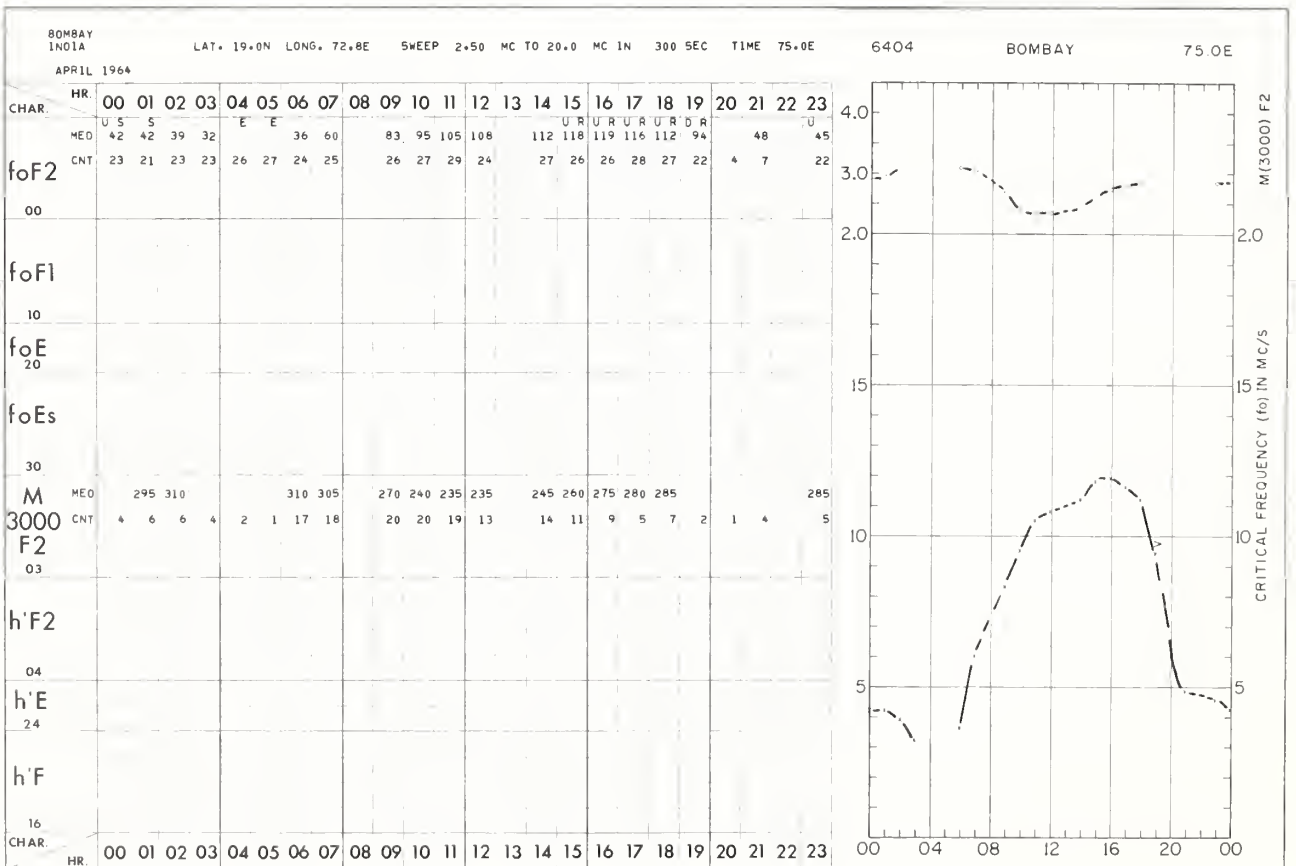
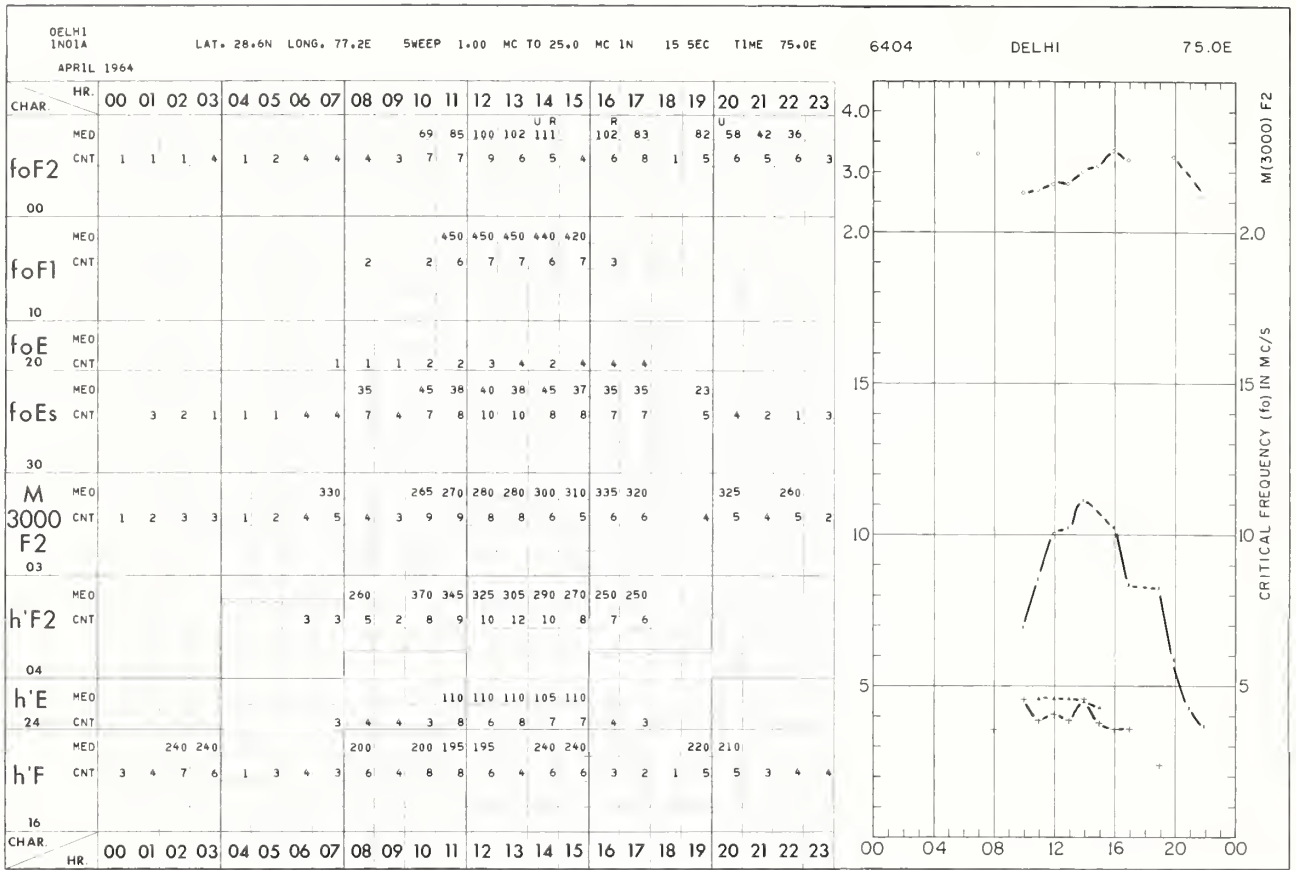


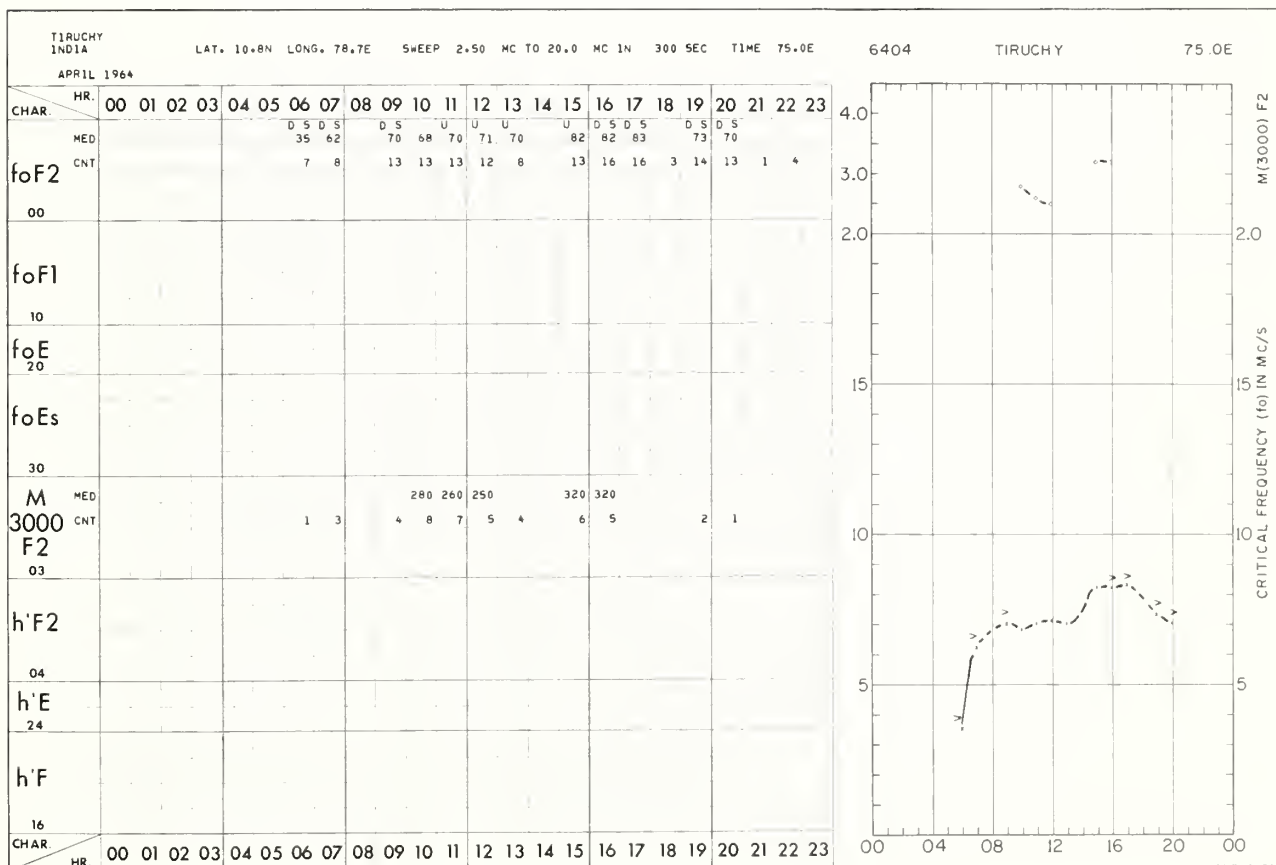
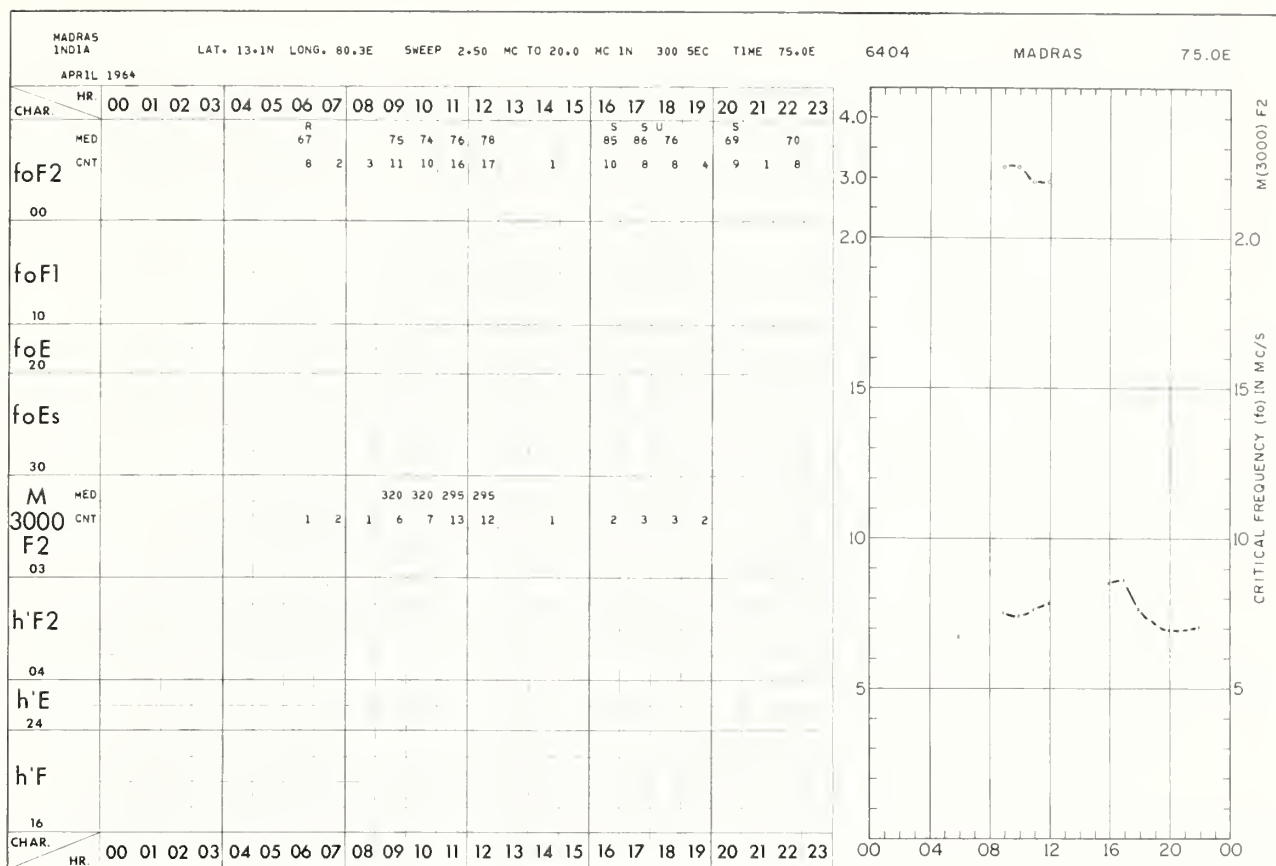












TRIVANDRUM

INDIA

LAT. 8.5N LONG. 77.0E SWEEP 2.50 MC TD 20.0 MC IN 30 SEC TIME 75.0E

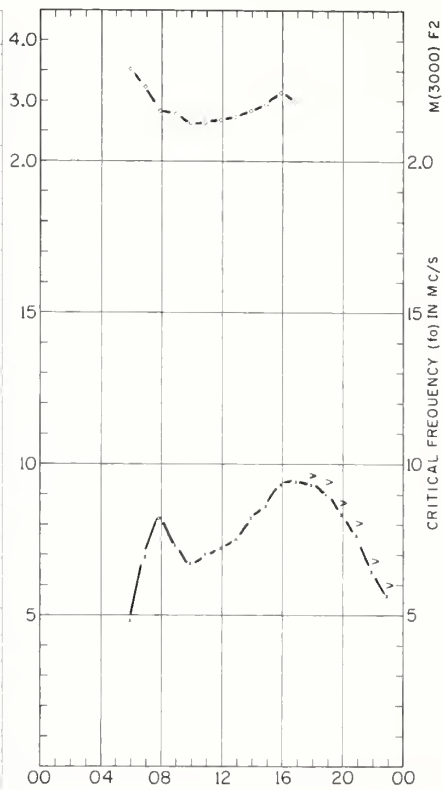
6404

TRIVANDRUM

75.0E

APRIL 1964

CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED	E	E	E	E	E	E	48	69	82	73	67	70	72	75	82	86	93	94	93	90	83	76	64	56
	CNT	3	7	8	8	9	11	12	19	19	19	19	19	18	14	7	9	10	10	10	9	7	8	10	6
foF1																									
foE																									
foEs																									
M	MED					355	325	285	280	265	265	270	275	285	295	315	300								
3000	CNT					10	13	11	12	16	17	17	11	6	6	8	6	3	3	3	3	2			
F2																									
h'F2																									
h'E																									
h'F																									
CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23



TUCUMAN

ARGENTINA

LAT. 26.9S LONG. 65.4W SWEEP 1.00 MC TD 25.0 MC IN 30 SEC TIME 60.0W

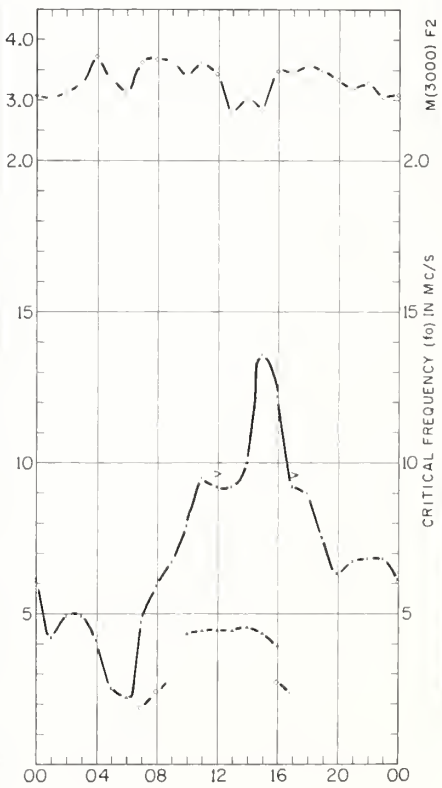
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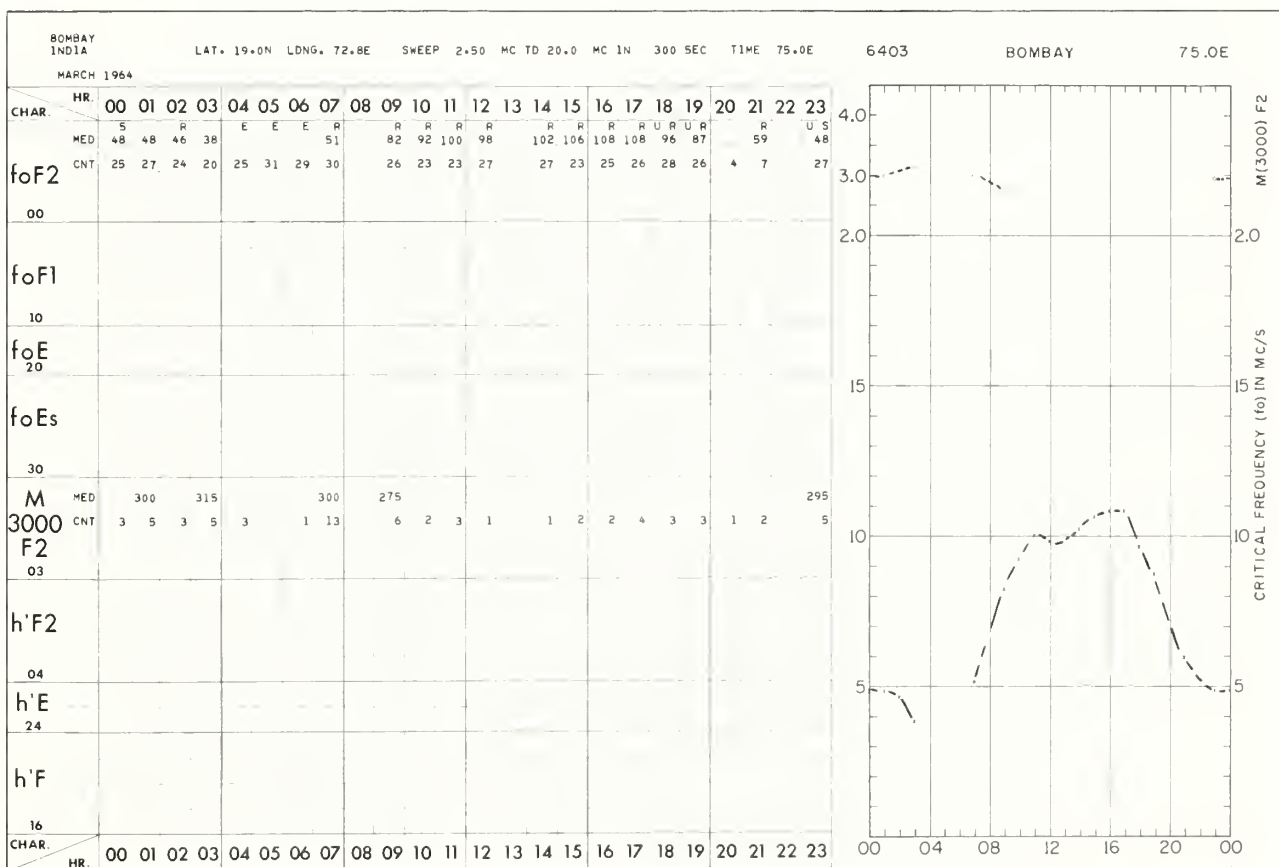
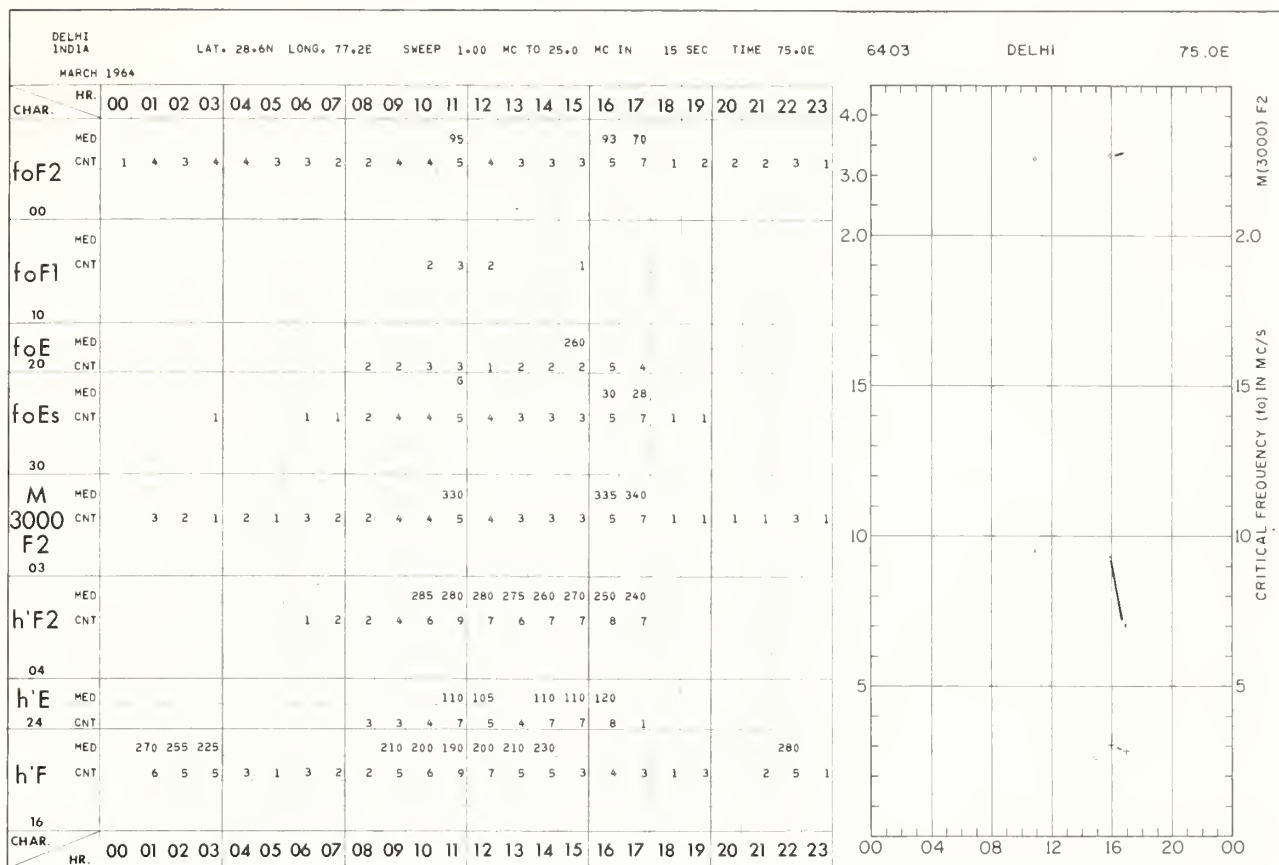
TUCUMAN

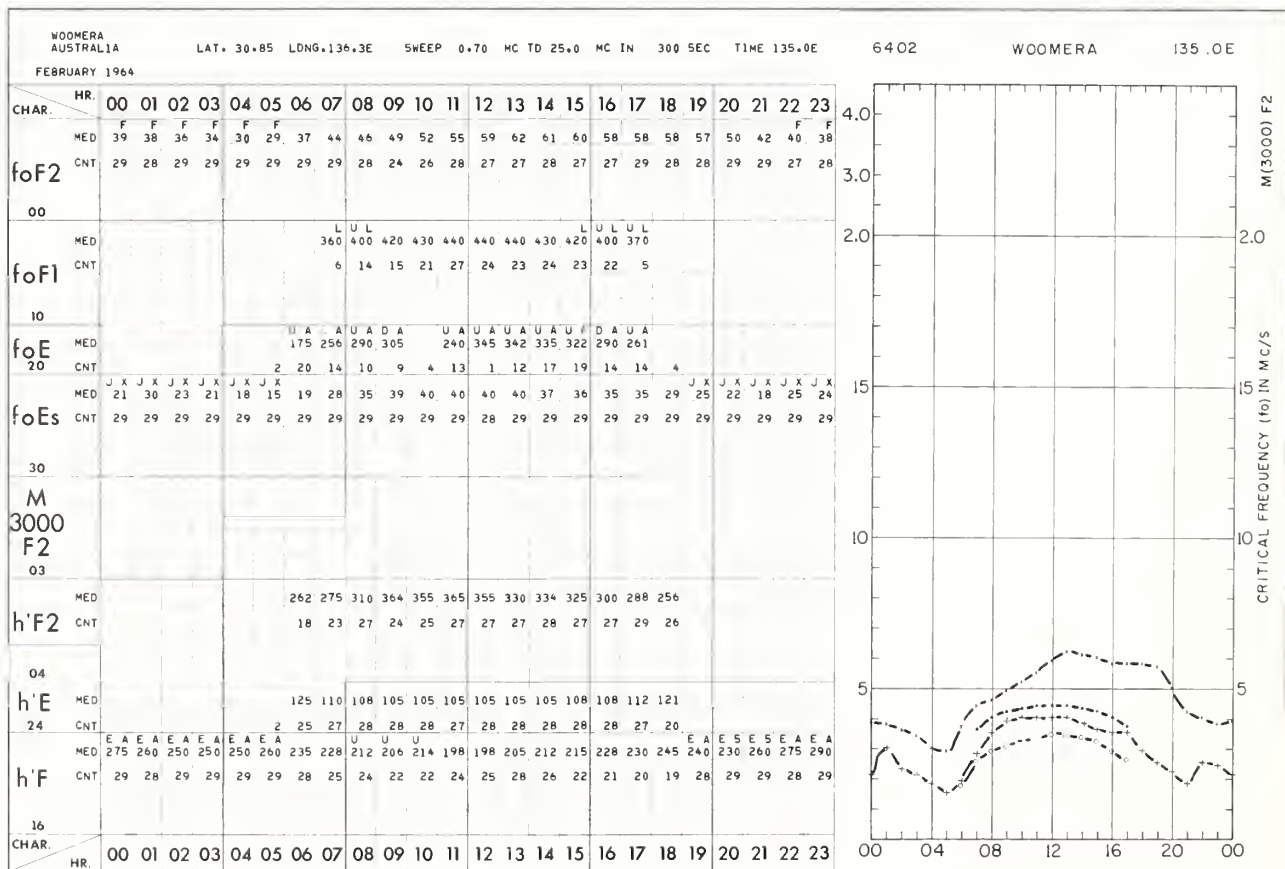
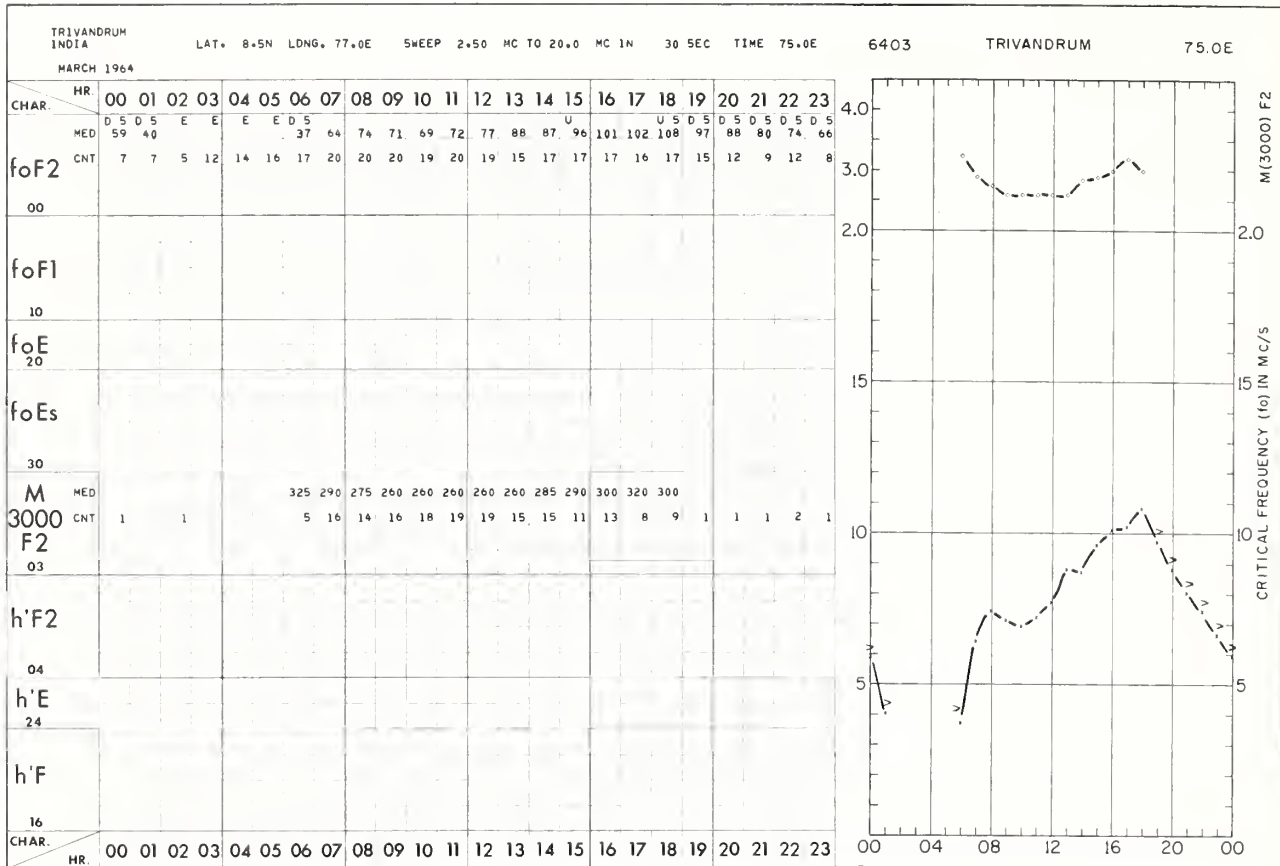
60.0W

APRIL 1964

CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
foF2	MED	61	42	49	49	41	25	22	47	59	67	79	95	92	92	100	136	122	92	90	75	63	67	68	68
	CNT	13	11	8	7	10	8	6	16	15	16	17	15	17	14	8	4	8	13	18	17	14	12	11	10
foF1																									
foE	MED																								
	CNT																								
foEs																									
M	MED	310	305	315	330	375	335	315	365	370	365	340	365	345	280	305	285	350	345	360	350	335	320	330	305
3000	CNT	12	9	8	7	10	8	6	16	14	16	15	8	6	7	5	3	7	6	13	14	8	9	10	8
F2																									
h'F2																									
h'E																									
h'F																									
CHAR	HR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23







				PAGE
AHMEDABAD	INDIA	1965	JULY	14
ARGENTINE IS.		1964	AUG.	43
		1964	SEPT.	40
		1964	OCT.	36
		1964	NOV.	29
		1964	DEC.	25
		1965	JAN.	23
		1965	FEB.	21
BANGKOK	THAILAND	1965	JUNE	17
		1965	JULY	15
		1965	AUG.	12
BANGUI	C. AFRICAN REPUBLIC	1964	OCT.	32
BOGOTA	COLOMBIA	1965	SEPT.	5
BOMBAY	INDIA	1964	MAR.	49
		1964	APR.	46
BOULDER	COLORADO	1965	OCT.	2
		1965	NOV.	1
BUENOS AIRES	ARGENTINA	1965	APR.	20
		1965	MAY	19
		1965	JUNE	18
CAPE ZEYGARI	CYPRUS	1965	JAN.	22
CHUNG LI	CHINA	1965	JULY	14
		1965	AUG.	11
CHURCHILL	CANADA	1965	AUG.	7
COCOS IS.		1964	AUG.	42
		1964	SEPT.	38
		1964	OCT.	33
		1964	NOV.	27
DELHI	INDIA	1964	MAR.	49
		1964	APR.	46
DOURBES	BELGIUM	1965	AUG.	8
GODHAVN	GREENLAND	1964	OCT.	30
		1964	DEC.	24
GODLEY HEAD	NEW ZEALAND	1965	AUG.	12
GRAND BAHAMA I.		1965	SEPT.	3
HOBART	TASMANIA	1964	NOV.	28
KENORA	CANADA	1965	AUG.	8
KIRUNA	SWEDEN	1965	AUG.	6
KODAIKANAL	INDIA	1965	MAY	18
LA PAZ	BOLIVIA	1965	APR.	20
LEOPOLDVILLE	CONGO	1964	JUNE	45
		1964	JULY	44
		1964	AUG.	41
LYCKSELE	SWEDEN	1965	AUG.	6
MADRAS	INDIA	1964	APR.	47
MANILA	LUZON	1965	JULY	15
MAUI	HAWAII	1965	SEPT.	4
MOSCOW	U.S.S.R.	1965	JAN.	22
NORFOLK I.		1964	OCT.	34
NURMIJARVI	FINLAND	1965	OCT.	2

				PAGE
OKINAWA I.		1965	SEPT.	4
OTTAWA	CANADA	1965	AUG.	9
PARAMARIBO	SURINAM	1964	AUG.	41
		1964	SEPT.	37
		1964	OCT.	31
POLE STATION	ANTARCTICA	1964	DEC.	26
		1965	JAN.	24
PORT MORESBY	PAPUA	1964	SEPT.	38
		1964	OCT.	33
		1964	NOV.	27
PORT STANLEY	FALKLAND I.	1964	OCT.	36
		1964	NOV.	29
RAROTONGA	COOK I.	1965	MAY	19
		1965	JUNE	17
		1965	JULY	16
RESOLUTE BAY	CANADA	1965	AUG.	5
ROME	ITALY	1965	JULY	13
		1965	AUG.	10
SALISBURY	S. AUSTRALIA	1964	SEPT.	39
		1964	OCT.	35
SANAE BASE	ANTARCTICA	1964	JULY	45
		1964	AUG.	43
		1964	SEPT.	40
		1964	NOV.	30
SINGAPORE	MALAYSIA	1965	JAN.	23
		1965	FEB.	21
SODANKYLA	FINLAND	1965	OCT.	1
ST. JOHNS	NEWFOUNDLAND	1965	AUG.	9
THUMBA	INDIA	1964	OCT.	31
		1964	NOV.	26
		1964	DEC.	25
TIRUCHY	INDIA	1964	APR.	47
TORTOSA	SPAIN	1965	AUG.	10
TOWNSVILLE	AUSTRALIA	1964	OCT.	34
		1964	NOV.	28
TRIVANDRUM	INDIA	1964	MAR.	50
		1964	APR.	48
TROMSO	NORWAY	1965	JUNE	16
TUCUMAN	ARGENTINA	1964	APR.	48
UPPSALA	SWEDEN	1965	AUG.	7
VANIMO	NEW GUINEA	1964	SEPT.	37
		1964	OCT.	32
WARSAW	POLAND	1965	JULY	13
WHITE SANDS	NEW MEXICO	1965	AUG.	11
		1965	SEPT.	3
WOOMERA	AUSTRALIA	1964	FEB.	50
		1964	JULY	44
		1964	AUG.	42
		1964	SEPT.	39
		1964	OCT.	35

Station	1961												1962											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Adak, Alaska	214	214	214	216	216	215	210	212	NP	NP	218	218	222	223	221	226	229	228	231	230	231	231	232	232
Ahmedabad, India	222	221	226	222			222	230	230	228	228		221	223	223	231	236		231	230	231	231	232	232
Akita, Japan	204	205	206	209	208	210	211	211	229	229	227	228	221	221	221	233	234	234	234	235	235	230	235	237
Anchorage, Alaska	214	214	216	216	215	216	210	212	213	217	221	218	230	222	223	224	232	232	238	232	232	232	233	232
Athens, Greece	229	229	224	223	226	227	225	225	237		237	237	238	238					223	224	223	227	227	228
Baguio, Luzon	224	205	206	226	208	209	210	211	227	223	227	228	224	223	223	223	223	223	223	224	223	227	227	228
Barrow, Alaska (See Point Barrow)																								
Bogota, Colombia	-----NR-----						-----NR-----						----NR---- 242						241 241 241					
Bombay, India													229	236	236									
Boulder, Colorado	214	214	216	217	216	215																		
Brisbane, Australia	223	222	226	226	208	209	210	211	229	229	227	228	220	221	221	223	233	234	234	238	238	238		
Buenos Aires, Argentina	223	223	223	226	226	226	226	226	226	229	229	229	233	233	233	233	233	233	237	237	237			
Byrd Station, Antarctica	214	214	214	231	231	231	231	231	231	231	231	231	232	ND	ND	239	239	241	241	241	241	241	232	
Canberra, Australia	224	NP	226	226	NR	NR	210	211	229	229	227	228	220	221	221	223	233	234	234	234				
Capetown, Union of S. Africa	204	205	206	207	208	209	226	228	229	229	227	228	233	233	233	233	234	234	ND	ND	236	236	237	237
Christchurch (Godley Head) N.Z.	205	206	206	226	208	209	210	211	229	229	227	228	233	233	233	233	234	234	234					
Churchill, Canada	204	205	206	207	208	209	210	211	228	229	228	228	233	233	221	223	234		235	234	236	236	236	236
Cocos Is.	-----						-----						233 224						233	238				
College, Alaska (See Fairbanks)																								
Concepcion, Chile	214	214	217	217	221	223	224	222	222	237	236	237	242	243										
Dakar, French W. Africa	225	225	226	236	236	227	227	221	223															
De Bilt, Netherlands	204	206	206	207	208	209	210	228	228	229	228	228												
Delhi, India													229	236	236									
Djibouti, French Somaliland	223	221	226	226	226	227	226	222	224															
Dourbes, Belgium	223	206	207	226	208	209	210	211	228	229	228	228	221	221	221	223	234	234	234	235	234	234	234	234
El Cerillo, Mexico	206	205	206	238	238	209	238	238	228	238	238	238	238											
Fairbanks (College), Alaska	214	214	214	216	216	216	216	220	212	213	219	219	223	222	228	229	231	231	231	231	231	232		
Falkland Is. (Port Stanley)	223	221	207	207	226	210	210	228	228	229	228	228	221	221	233	233			238	238	238	238	237	
Formosa (Taipei), China	204	205	206	207	208	209	210	211	228	229	228	228	221	221	221	223	234	234	234	236	235		236	
Freiburg, Germany	229	229	229	222	222	222	233	233	233															
Ft. Monmouth, New Jersey	218	218	218	219	219	219	ND	ND	NP	224	220	220	225	221	223	227	225	230	232	231	232	231	232	232
Garchy, France	-----NR-----						ND	228	228	229	228	228	228	233	233	237								
Genova (Monte Capellino), Italy	225	225	225	225	225	225	225	225	225	225	225	225	238	238	238	238	238	238	238	238	238	238	238	238
Godhavn, Greenland	217	214	216	217	217	217	217	222	228	229	222	224	225	231	231	231	231	231	231	231	231	235	236	
Godley Head, N.Z. (See Christchurch)																								
Grand Bahama I.	NP	NP	218	218	219	221	-----NP----	218	218	221			222	221	228	231	224	231	NP	231	231	231	232	232
Graz, Austria	204	205	206	207	208	209	210	211	230	229	228	228	223	221	221	223	234	234	234	234	235	235	235	235
Hobart, Tasmania	-----NR-----						226	208	209				220	211	230	229	228	228	234					
Huancayo, Peru	204	204	206	206	207	208	208	217	213	217	218	222	224	225	230	230	228	231	231	231	231	231	232	232
Ibadan, Nigeria	225	221	226	226	226	227	226	228	230	227	228	228	233	233	233	233			237	237	237			
Inverness, Scotland	224	205	206	207	226	210	210	211	229	227	228	228	221	221	221	233	234						237	
Johannesburg, Union of S. Africa	204	205	206	207	208	209	226	228	229	229	227	228	233	233	233	233	234	234	234	235	236	237	237	237
Juliusruh/Rugen, Germany		221	226	226	227	227	227	228	229	227	228	230	233	233	235	235	236	236	236					
Kiruna, Sweden	204	205	206	207	208	209	210	211	229	227	228	230	221	221	221	231	233	234	234	234	235	235	235	235
Kodaikanal, India													229	236	236									
Kokobunji, Japan (See Tokyo)																								
La Paz, Bolivia	NP	217	217	-----NR----			223															232	232	232
Leopoldville, Congo	225	221	227	228	228	228	228	230	229	229	228	228	233	233	233		ND							
Lindau/Harz, Germany	224	221	226	226	227	227	227	228	229	229	230	228	233	233	233	234	234	234	234	237	237	237		
Lulea, Sweden	204	205	206	207	208	209	210	211	230	229	228	228	233	231	221	223	233	234	234	234	235	235	235	235
Lycksele, Sweden	204	205	206	207	208	209	210	211	230	229	230	228	221	221	221	233	233	234	234	234	234	235	235	235
Macau	NR	NR	226	226	227																			
Madras, India													229	236	236									
Maui, Hawaii	217	217	217	217	220	220	220	220	220	220	220	220	220	220	220	227	225	231	231	230	231	232	231	232
Mawson, Antarctica	226	229	229	235	236	237	237	238	237	237	238													
Moscow, USSR					235	235																		
Mundaring, W. Australia	204	205	226	207	208	209	210	211	229	224	229	228	221	221	223	233	223	223	233	232	232	232	231	232
Narssarsuaq, Greenland	218	218	218	219	218	219	219	219	223	229	223	223	224	232	225	223	231	231	231	232	232	232	232	232
Natal, Brazil	229	229	229																					
NurmiJarvi, Finland	204	205	206	207	208	209	210	211	229	229	230	228	221	221	221	233	233	234	235	235	234	235	234	235
Okinawa I.	228	226	227	NP	228	228	223	227	223	227	226	NP	NP	230	229	231	223	224	231	231	231	232	231	231
Ottawa, Canada	204	205	206	207	208	209	210	211	229	229	230	228	233	233	223	233		234	235	234	236	236	236	236
Paramaribo, Surinam	235	230		231	235	230	235	235	230															
Paris, France	225	222	226	226	227	227	227	228	223															
Point Barrow (Barrow), Alaska	219	219	219	219	218	218	219	218	218	219	219	222	229	229	223	230	223	231	231	231	231	232	232	232
Pole Station, Antarctica	219	229	222	222	222	221	231	231	228	231	224	231	242	242	242	242	242	242	243	243	243	243		
Port Lockroy	228	221																						
Port Moresby, Papua	-----						222	224					233	233	233	230	233	234	234	235				
Port Stanley (See Falkland Is.)							210	211	227	230	230	228												
Pruhonice, Czechoslovakia					207	208	209	210	211	227	230	230	228					221	230	233	234	235	235	236
Rarotonga, Cook Island						227	227	230	229	229	230	228										237		
Resolute Bay, Canada	204	205	206	209	208	209	210	211	228	229	230	228	233	233	223	224		234	235	234	236	236	236	236

Station	1963												1964											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Adak, Alaska	232	232	232	232	234	238	237	238	239	240	240	240	240	241	241	242	243	244	245	245	246	246	247	247
Ahmedabad, India	238	238	238	238						247	246	246	246	244	244	244	244	245	245	246	NR	249	249	250
Akita, Japan	237	238	239	239	239			248	248	247	246	246	246	241	242	242	243	243	244	245	245	247	247	249
Anchorage, Alaska	232	232	232	232	238	240	237	240	239	NP	240	240	240	240	241	241	242	243	244	245	245	245	246	249
Argentina Is.														249	249	255	255	255	255		256	256	256	256
Athens, Greece	-----NR-----						NR	248	248	247	246	246	246	241	242	242	243	243	244	244	245	245	246	248
Bangkok, Thailand														241	241	241	246	246	246		252	252	252	252
Baguio, Luzon	229	230	231	231	231	240	231	231	240	240	240	240	240	253	253	253								
Bangui, C. African Republic														241	241	241	243	243	244	245	245	246	246	247
Barrow, Alaska	232	232	232	233	238	238	236	237	240	NP	ND	ND	ND	240	240	240	240	240	240	245	245	246	246	247
Bekescsaba, Hungary														250	250	250	251	251	251					
Bogota, Colombia	241	241	243				241	241	241	241	241	241	241	243	244	244	244	244	244	245	245	246	247	249
Bombay, India														253	253	256	256							
Boulder, Colorado					240	240	240	242	241	241	240	240	240	240	240	241	241	241	242	242	243	243	244	245
Brisbane, Australia	240													247	249	250	252	252	252	253	254	254	255	
Buenos Aires, Argentina														254	254	255	255	255	255	255	255	255	255	255
Byrd Station, Antarctica	232	243	243	243	243	243	243	243	243	243	243	245	245							251	251	251		
Campbell I.	239	239	239											243	243	244	251	251	251	251	251	252	252	252
Canberra, Australia	240													249	249	250	250	251	253	253	253	254	255	
Cape Hallett, Antarctica														243	243									
Capetown, Union of S. Africa	238	239	239	239			247	250	255				247	250	255									
Churchill, Canada	236	238	238	239	239		248	248	247	246	246	246	241	242	242	243	243	243	243					

Station	1963												1964											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Kokubunji, Japan	237	238	239	239	239		248	248	247	246	246		241	242	242	243	243	244	245	245	247	247	249	250
La Paz, Bolivia		233	240	240	240	240	240	240	----	ND	-----		ND				245	NP	245	246	246	249	249	249
Leopoldville, Congo	240	-----	NR	-----			-----	NR	-----				243	248			256		256	256				
Lindau/Harz, Germany	240	-----	NR	-----			-----	NR	-----				243	244	244	245	245	249	249	249	249			
Lulea, Sweden		236	237		239								241	241	242	242	244	244	249	249	250			
Lwiro, Congo	-----	NR	-----				-----	NR	-----				241	241	242	242	244							
Lycksele, Sweden	236	236	237	239	239		248	248	247	246	246		241	242	242	242	242	243	244	244	245	245	247	247
Madras, India													253	253	ND	256								
Manila, Luzon													241	241	242	242	243	243	243	244	244	247	249	249
Maui, Hawaii	232	232	232	232	234	232	235	238	240	240	240	240	240	241	241	242	243	244	245	245	246	246	247	247
Moscow, U.S.S.R.	240												247	247	247	250	250	251	251	252	251	252	252	253
Mundaring, W. Australia	232	232	232	232	232	240	237	239	240	NP	242	241	249	250	250	251	251	252	253	253	255	255		
Narsarsuaq, Greenland													240	241	243	244	244	244	245	245	246	247	247	248
Norfolk Is.													252	252	252	ND	253		253	253	254	256		
Nurmijarvi, Finland	235	236	236	237	238		248	248	247	247	247		241	241	242	242	242	243	244	244	245	246	247	247
Okinawa I.	232	232	232	232	234	234	235	240	240	240	240	240	240	241	241	242	243	243	245	245	245	246	247	248
Ottawa, Canada	236	238	238	239	239		248	248	247	246			241	242	242	243	243	243	244	244	245	246	247	248
Paramaribo, Surinam													243	249	249	249	250	255	254	256	256			
Paris, France	239	239	239	240									245	245	246	246	250	250	251	251	252		255	255
Pole Station, Antarctica	243	245	----	ND	----	246	246	246	247	249	ND		249			251	251	251	252	252				256
Port Moresby, Papua	240												244	244	244	244	248	248	249	249	249	252	253	
Port Stanley (Falkland Is.)	238	239	239	239			248	248	247	246	246		242	242	243	244	248	251	251	251	251	252	252	252
Pruhonice, Czechoslovakia	240						248	248	247	246	246		247	247	247	247	250	250	251	251	253	255	255	255
Rarotonga, Cook I.	239	240	239	239									241	242	242	243	243	243	244	244	245	246	247	248
Resolute Bay, Canada	236	238	238	239	239					248	248		240	241	241	243	243	243	245	245	246	247	247	248
Reykjavik, Iceland	232	232	232	232	234	238	236	240	242	239	240	240	240	241	241	241	243	243	245	245	246	247	247	248
Rome, Italy	236	236	238	238	239		248	248	247	246	246		241	241	242	242	242	244	244	244	245	246	247	248
Salisbury, S. Australia	240																							
Sanae Base, Antarctica													244	244	254	254	254		256	256	256		256	
Scott Base, Antarctica													248	248	248	248	248	248	249	249	249	249	252	253
Singapore, Malaysia	237	237	239	239			248	248	247	246	246		241	242	242	243	244	244	248	248	248	249	249	250
Slough, England	237	239	239	239			248	248	247	246	246		241	241	242	243	244	244	247	247	249	249	250	255
Sodankyla, Finland	235	236	237	237	239		248	248	247	247	247		241	241	242	242	242	243	244	244	244	245	246	247
Sottens, Switzerland	237	238	238	239	239					248	248		242	244	244	245	250	250	250	ND	251	251	252	254
St. Johns, Newfoundland	236	238	238	239	239					248	248		241	242	242	243	243	243	244	244	245	246	247	248
Tahiti, Society I.	239	239	239	240									245	245	245	246	246		254	254	254	254	254	254
Taipei (Formosa), China	237	237	239	239	239					247	246	246	241	241	242	242	243	243	244	245	248	248	248	250
Talara, Peru	232	234	236	234	237	240	241	240	240	242	241	242	242	243	243	244	249		249	249	251	251	251	251
Tamanrasset, Algeria													250	250	251	251	251	252	252	252	252	253	253	
Tananarive, Malagasy Republic	239	239	239	240									245	245	245	249	249	250	250	251	251	252	252	253
Tehran, Iran			239	239																				
Thule, Greenland	232	232	232	233	242	233	236	242	240	239	240	240	241	241	241	243	244	244	245	245				
Tiruchy, India													253	253	ND	256								
Tortosa, Spain													242	-----	ND	-----	252	252	252	252	252	ND	253	253
Townsville, Australia	240												250	250	251	251	252	252	253	254	255	256	256	
Trivandrum, India													253	253	256	256								
Tromso, Norway	235	236	236	237	238	239	248	248	247	246	246		241	242	242	242	242	244	244	245	247	247	247	249
Tucuman, Argentina		239	239										244	ND	ND	256	254	254	254					
Uppsala, Sweden	239	236	237	237	239		248	248	247	246	246		241	242	242	242	242	243	244	244	245	245	247	247
Vanimo, Australian New Guinea																								
Wakkanai, Japan	237	238	239	239	239		248	248	247	246	246		241	242	242	243	243	244	245	245	247	247	249	250
Warsaw, Poland	239	239								248	248		241	241	242	242	244	245	245	247	249	250	250	251
White Sands, New Mexico	232	232	232	232	235	236	234				241		241	241	241	243	244	244	244	245	245	246	247	247
Winnipeg, Canada	236	238	238	239	239	---	-----	-----	-----	-----	-----													
Woomera, Australia	240												243	256	248	248	248	248	256	256	256	256		
Yamagawa, Japan	237	238	239	239	239		248	248	247	246	246		241	242	242	243	243	244	245	245	247	247	249	250

Code: NR = No data received.

NP = Data not published.

ND = No data in existence.

-- = (Without letter symbol) station not operating.

Station	1965												1966											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	D
Adak, Alaska	249	250	251	252	252	254	254	255	255															
Ahmedabad, India	250	251	251	253	255	255	256																	
Akita, Japan	250	252	252	253	254	256																		
Anchorage, Alaska	248	251	252	252	252	253	254	255	255															
Argentina Is.	256	256																						
Bangkok, Thailand	253	253	253	253	253	256	256	256																
Barrow, Alaska	249	251	252	252	252	254	254																	
Bogota, Colombia	249	249	252	252	252	253	NP	255	256															
Boulder, Colorado	247	248	249	250	251	252	253	254	255	256	256													
Buenos Aires, Argentina	255	255	255	256	256	256																		
Campbell I.	253																							
Cape Zevgari, Cyprus	256																							
Churchill, Canada	249	250	251	251	254	254	255	256																
College (Fairbanks), Alaska	249	253	254	253	254	254	254	255	255															
Concepcion, Chile	252	252	252	253	253	ND	254	255																
Dourbes, Belgium	250	250	251	252	253	254	255	256																
El Cerillo, Mexico	250	251	251	252	253	253	254	255																
Ft. Belvoir, Va. (Washington, D.C.)	249	249	251	251	252	253	254	254	255															
Ft. Monmouth, N.J.	250	250	251	252	252	253	254																	
Godhavn, Greenland	253	253	254	254																				
Godley Head (Christchurch), N.Z.	249	250	251	252	253	254	255	256																
Grand Bahama I.	249	249	251	252	253	254	255	255	256															
Huancayo, Peru	250	252	253	253	253	254	255	255																
Hyderabad, India	254	254	254	254	254	254																		
Juliusruh/Rugen, Germany	255	255																						
Kenora, Canada	249	250	251	251	254	254	255	256																
Kiruna, Sweden	249	250	251	252	253	254	255	256																
Kodaikanal, India	251	255	255	255	255	256																		
Kokubunji, Japan	250	252	252	253	254	255																		
La Paz, Bolivia	251	252	254	256																				
Lycksele, Sweden	249	250	251	252	253	254	255	256																
Manila, Luzon	250	250	253	253	254	254	256																	
Maui, Hawaii	248	249	251	251	252	252	254	255	256															
Narssarssuaq, Greenland	251	251	252	253	254	254	255																	
Nurmijarvi, Finland	249	249	250	251	252	253	254	255	256															
Okinawa I.	249	250	251	252	252	254	254	255	256															
Ottawa, Canada	249	250	251	251	254	254	255	256																
Pole Station	256																							
Pruhonice, Czechoslovakia	253	253	255	255																				
Rarotonga, Cook Is.	255	255	255	255	256	256	256																	
Resolute Bay, Canada	249	250	251	251	254	254	255	256																
Rome, Italy	249	250	251	252	254	254	256	256																
Singapore, Malaysia	256	256																						
Slough, England	255																							
Sodankyla, Finland	249	249	250	251	252	253	254	255	256															
Sottens, Switzerland	254	254	254	254	254	254																		
St. Johns, Newfoundland	249	250	251	251	254	254	255	256																
Taipei (Chung-Li), China	251	251	253	253	253	254																		
Talara, Peru	252	253	254	254	255																			
Tehran, Iran	254	254	254																					
Thule, Greenland	249	250		252	253	254	255	255																
Tortosa, Spain	253	254	254	254	254	255	255	256																
Tromso, Norway	250	250	251	253	255	256																		
Uppsala, Sweden	249	250	251	252	253	254	255	256																
Wakkanai, Japan	250	252	252	253	254	255																		
Warsaw, Poland	251	252	253	255	255	255	256																	
White Sands, New Mexico	249	251	252	252	253	253	254	256	256															
Yamagawa, Japan	250	253	253	253	254	255																		

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